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CATTLE POISONED BY HEMLOCK.

BY ALEXANDER GUNN, M.R.C.V.S., BALLOAN, BEAULY, N.B.

THE hemlock, or *Conium maculatum*, of the natural order Umbelliferæ, is a well-known biennial plant, its chief *habitat* being along ditches and hedgerows. Apart from its bitter, nauseous taste, the fœtid smell exhaled by all parts of the plant would be thought, of itself, to be proof against animals eating it, yet it has happened now and again that they have eaten it in sufficient quantities to cause alarming symptoms and death. Granting me space in your valuable journal, I will, for the benefit of my professional brethren, give in detail the symptoms and treatment of a case of poisoning by the above plant that recently occurred in my practice.

In a valuable herd of pedigree polled Aberdeen cattle, belonging to E. H. Wood, Esq., of Raasay, Isle of Skye, while grazing in a small park in close proximity to the farm-steading, two of them, being two-year old heifers, were noticed lying stretched and endeavouring now and again to rise, and a yearling heifer was seen staggering and falling on its knees. When examined shortly after, they were found to be very much swollen about the eyelids and head, and a great quantity of frothy saliva was running from the mouth. They were, with some difficulty, removed to a loose box in the farm-steading. They appeared to have lost the power of their limbs, as they could scarcely stand, and one of the animals was almost lifeless.

This happened on the 22nd July last, but, owing to the distance, and the difficult access to the island, I did not see the animals before the evening of the 23rd. On arrival I found that one of the two-year olds had died that morning, and the other animal of the same age succumbed, after suffering great pain, shortly after I arrived; the yearling heifer being now the only one left. The symptoms exhibited in the two animals I saw alive were as follows:—Swelling of the head, which, on manipulation, felt soft and doughy, but without any abnormal heat; eyes dull and pupils dilated; eyelids very much swollen, tears flowing over the cheeks; blood-streaked mucus running from the nostrils; oral breathing; animal showing signs of asphyxia; and a copious flow of frothy saliva from the mouth. The oral breathing was a marked symptom in the three cases; the creatures lay almost prostrate, but making frequent attempts to rise. Pulse, forty beats per minute; temperature 107·2° F. Diarrhœa was present in the two-year old, and constipation in the yearling heifer. The fæces were involuntarily passed in the two-year old; they were very dark in colour and emitted a fœtid smell.

Treatment.—After making a thorough examination of the yearling now left, and gleaning as much information from the intelligent manager as possible, I adjourned to the park grazed by the animals, and had little difficulty in finding immense numbers of young hemlock plants growing round the pond used as a reservoir for the threshing-mill, and also for supplying the animals grazed in the park with water. The weather being warm and sultry, the cattle were noticed, the day previous to their illness, standing in the pond and quietly browsing off its banks. On a close examination of the herbage here, it was found to contain numberless young hemlock plants, which were closely eaten off by the cattle. Having, therefore, discovered the cause, I endeavoured to save the animal still living, the proprietor meantime giving me free access to his well-filled medicine store. I administered, in a drench, one pint of linseed oil and two ounces of brandy, stimulated the spine throughout its whole length with mustard, and gave stimulating enemata. The sides were fomented with warm water continuously for twenty minutes at a time, and his, after a few applications, mitigated the oral breathing. This

line of treatment was persevered with during the night, with the exception of giving small quantities of thin, boiled oatmeal gruel containing the brandy at intervals of three hours. The constipation was obstinate, and no fæces were passed for four days, when they appeared to be very hard, dark, and emitted a very fœtid smell. It was not till purging freely set in that the poor animal showed signs of regaining its strength. Another small dose of oil containing stimulants was administered, and daily thereafter the strength returned till the animal ultimately recovered, though it was very weak, and reduced from its plump condition to almost a skeleton.

The *post-mortem* examination of the animals that died showed the lungs engorged with very dark fluid blood; the heart, also, and the liver contained thin dark blood; the stomach, after its contents were carefully removed, was found to be of a deep red colour, and the intestines throughout were congested in patches here and there. In examining the contents of the stomach, a number of shreds of the young hemlock plant were easily found. The bowels were distended with fœtid gas, and the odour given off from the carcases was so sickening that it was with much pressing I could get any one to lend a hand in moving the bodies.

CASES OF BRAIN DISEASE SUPERVENING ON INFLUENZA AND STRANGLES.

BY F. BLAKEWAY, F.R.C.V.S., STOURBRIDGE.

CASE I.

THIS was a brown gelding, eight years old, one of a farm team. I saw this team on June 5th, when all were suffering from influenza; at the end of the month they were all at work again. On July 26th, I met these horses on the road, when the man in charge complained that the gelding was not doing well and was very dull. I prescribed tonics, rest, and a liberal diet for it. In a day or two the left eye became inflamed, and an abscess formed in the ocular adipose cushion at the back of the eye. This abscess was opened; it discharged freely, and all appeared to be doing well until August 5th, when, although the appetite was

good, the horse again became very dull and listless. This increased until the 8th, when the animal would press its head against the wall, inclining to one side. The pulse was oppressed, and there were marked symptoms of pressure on the brain. On the 9th the gelding became quite comatose, fell down, and died on the 10th with scarcely a struggle. There never was any frenzy.

CASE II.

This was a three years old colt which had Strangles, but as the owner thought it was a mild case he allowed the creature to remain at pasture. On July 29th we were requested to see it. We found it in a low state, with an abscess under the jaw, one or two small abscesses on the face, and a large one about midway down the neck. We ordered it to be put into a loose box, to receive a liberal diet, with tonics, etc. Everything appeared to be going on well until August 6th, when symptoms of cerebral disturbance manifested themselves, and gradually increased in intensity until the colt appeared to be nearly mad. This state continued until the 9th, when the animal became quite comatose and died on the 18th.

In both of these cases the condition of the brain was found on examination to be exactly the same, viz., an abscess existed on the super-anterior part of the left hemisphere of the cerebrum. The dura mater was much thickened on this side, the pia mater had disappeared, and the abscess extended to a depth of one-third of an inch into the substance of the cerebrum. Both abscesses were broken, and laudable pus covered the whole of the left hemisphere.

It is somewhat remarkable that two cases bearing such a strong resemblance to each other, should occur at the same time, and would almost lead us to suppose that there are more instances of cerebral abscess than we suspect. I am inclined to think that the severe winter and ungenial spring, together with the badly-harvested hay of last year, have had much to do in giving rise to the irregular form assumed by Strangles and Influenza this year, particularly in agricultural districts.

A question arises here as to whether cerebral abscesses occur most frequently in the left hemisphere of the cerebrum. All the

instances that have come under my observation have had the abscess there.

I may mention that I took the brains intact, as well as the skulls, to the last meeting of the Liverpool Veterinary Medical Association, as I was aware that there are some members of the profession who maintain that true abscess in the brain never occurs except from injury. But the meeting had such an abundance of interesting matter laid before it by Professor Axe, that I did not have a chance to show my specimens.

EXAMINATION OF BURSATTEE MATTER FROM THE LIVER OF A HORSE.

BY JOHN STEEL, M.R.C.V.S., A.V.D., IPSWICH.

THE following concise statement may assist in elucidating the pathology of this remarkable affection, over which much obscurity has until recently hung. The results constitute a link, almost the final one, in the chain of evidence as to the parasitic nature of the disease. We may summarise the history as follows:—

1. Observations as to clinical features by Western, Hodgson, etc.

2. Long period of indefinite theorising as to true nature.

3. Suggestion by F. Collins, P.V.S. in India, that the disease clinically seems parasitic.

4. Assertion of the presence of a special vegetable parasite of algoid nature in Bursattee growths, by F. Smith, V.S., 12th Lancers.

5. (Present paper.) Observation of a fungal development from the "Specific Brown Cells" of Smith.

6. Culture of Bursattee organism (yet to be tried).

7. Scientifically directed efforts to extirpate the disorder.

The specimen of diseased liver was forwarded to me from India, preserved in spirit. The major part of its substance is not diseased; but diffused throughout it, varying in frequency in different parts, are very hard diseased portions, varying from the size of a mustard-seed to that of a large green pea. Each mass consists of an outer dense fibrous coating, which is

capable of being peeled off the surface of a stone-like mass, the *kunkur*, but is only separable with care from the surrounding liver tissue. The contents of this coat have evidently been gradually collecting, and with only a limited amount of irritation. This outer coat reminds us of the capsule of an echinococcus. The contents vary in shape, being ovoid, spheroid, bilobed, or assuming one of various irregular forms. Externally this kunkur is of a yellowish-brown colour and very hard, feeling stony against the knife. When cut across, it is found that this brown hard layer only forms a thin outer investment, the interior being composed of softened material, which on exposure to the air becomes of a chalky white colour. In one case I found it somewhat pasty, and soft in the centre; of this, more hereafter. A scraping of the hard investment, examined under $\frac{1}{8}$in. objective, essentially resembles material obtained in a similar manner from the softer interior. The following elements may be observed in each:—

1. Crystals, varying in shape, but fundamentally stellate, the most complex consisting of six arms, each shaped like the sail of a windmill, and serrated on one side. Found most in outer hard layer; rare (*a* in figure).

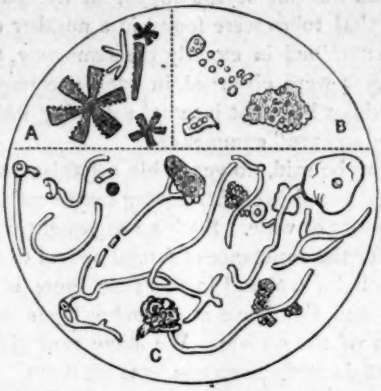
2. Brown *débris* and scale-like masses, with minute, spherical, highly refrangent nuclei, abounding on the field as well as in the masses, and scattered freely among the brown *débris* (*b* in figure).

3. Undoubtedly fungal elements in direct continuity with the brown elements and spores (*c* in figure).

I deal with the latter first, since I believe I am the first observer of the Bursattee fungus in growth. Undoubtedly it has been seen, but the true nature of the changes going on in the recrudescent stage of a kunkur has not been noted and explained hitherto by any one who has made micro-organisms a special study. I have carefully prepared myself for observations of this nature by study of both higher and lower fungi—a statement which I make that the reader may be assured that I do not treat of this matter lightly, nor without experience. The specimen shows, among others, the following, which I shall describe in the language of mycologists.

(*a*) Hyphal tubes, shooting out from the scale-like and irre-

gular brown masses, which must be considered the (*b*) hymenium, containing spheroidal (*c*) spores, the centres of growth of the



ELEMENTS OF BURSATTEE MATTER.

A. Crystals found in Kunkur, not very frequent. Somewhat resemble those of Hippuric acid and phosphates.

B. Components of ordinary Kunkur. Brown cells or débris, with enclosed or free spores.

C. Fungus elements from a "recrudescent Kunkur."

tubes, for the following may be noticed—two spores united by a short hypha, also spores at intervals along the course of some of the tubes or hyphæ. Sometimes a circular small mass of a brown colour surrounds a spore, and from the mass one or two tubes shoot out; in other parts of the field, we see spherical deep-brown masses of small size, surrounded by a refrangent coat in more or less loose connection with a hypha. Some hyphæ break off towards their free extremities transversely, others have irregular small masses of brown matter on their walls. Occasionally the hyphal tubes bifurcate. These tubes are generally colourless and distinct, but sometimes present a slightly blue colour. (I have figured all these forms from the specimen, June 22nd, 1881.)

It may be objected that these are fungal elements accidentally introduced on the glass used, or in the water added; to which there is a conclusive reply, the hyphal tubes and the brown Bursattee elements are *in organic connection;* the former un-

doubtedly spring from the latter. Again, the kunkur, from which the specimen was obtained, was soft and moist internally *when opened*, and was one of the largest in the portion of liver. Lastly, no hyphal tubes were found in a number of other kunkur nodules examined in exactly the same way, though spores and brown *debris* were observed in each specimen; in none of these latter nodules had that internal softening which I term the "kunkur recrudescence" commenced.

Again, it may be said, no vegetable organism, such as I have described, would germinate after having been kept several months preserved in spirits of wine. Such an argument would be based on ignorance, for the resistance of fungal spores to disintegrating influences is well known, and in this case there is the investing external coat, and the dense stony outer layer to protect the deeper portion of the nodule. We have now given our facts. Let us see what deductions we can base on them. We may provisionally give the following *Life-History of the Brown Bursattee Fungus of Smith*:—In its dormant stage it forms a mass (resembling to some extent the ergot stage of Claviceps), hard externally, softer internally, owing its hardness to its density and to calcareous deposits, such as we see also in many of our common moulds, and consisting of broken-down fungus elements with spores interspersed. Under suitable conditions this ergot-like kunkur undergo changes, resulting in the development of hyphal tubes from the spores whereby the mycelium of the fungus is formed. The characters of kunkur are such that it is thrown off from the body of the host, under ordinary circumstances, just when such a change is required by the fungus. On the soil, the colour and appearance of the kunkur perhaps serve to protect it from its enemies while it remains entire, but when it disintegrates the spores escape, and having been disseminated after the manner of the germinating elements of other fungi, when they fall on a suitable soil, such as a fresh wound, produce hyphal tubes on which young spheroidal brown cells appear, in their turn to lead to new spores, and then degenerate into the brown *débris* of kunkur. This life-history, though at present requiring confirmation in many points, should lead to the following practical conclusions:—

1. These Bursattee sores, when taken early, should be dressed with such agents as destroy fungi—carbolic, salicylic, or sulphurous acid. Thus an absolute destruction of a Bursattee centre is brought about, for the case is taken before the spore-producing stage.

2. To prevent Bursattee, the minute fungus spores diffused through the air should be excluded from wounds by antiseptic dressings, especially those of Carbolic Acid. The exposed tissues are thus to be rendered a bad soil for the growth of a crop of Bursattee fungus.

3. In old Bursattee sores in the kunkur-producing stage, these hard masses must be periodically removed and destroyed. By removal, we assist nature in her efforts to free the part from these natural irritants. By destruction, we thwart her efforts to propagate the vegetable parasite. At this stage, such dressings as caustic potash should disintegrate and destroy small masses of kunkur. Let it be remembered, also, that such kunkur as remains in the sore will be capable of recrudescence *in that sore*, when, with recurrence of due climatic conditions, its season of activity again sets in; hence, the value of the heroic method of cutting out the whole of the diseased part, or destroying it with the actual cautery.

Thus Bursattee takes its place among parasitic disorders of fungal origin; it is hard to find a parallel to it. Closely resembling certain vegetable parasitic diseases of the skin, it somewhat approaches the Cancers in its power of invading internal organs, as well as the surface of the body. When more is known of the true nature of Cancer, it may be found not unlike Bursattee; but a reference to current literature shows me that I must leave this matter in other hands. We urgently want full and carefully recorded experiments on the communicability of the disease, and also of its microscopic appearances in its various stages (the latter, of course, purely for confirmation of observations recorded by able workers who have before this devoted time and attention to the study).

UNILATERAL CRYPTORCHIDISM.

BY J. COOPER, M.R.C.V.S., 4TH DRAGOON GUARDS, ALDERSHOT.

I AM induced to publish the details of an operation for this form of Cryptorchidism, as each successful case will tend to remove the somewhat prevalent idea that the operation is a formidable one. That such is not the fact, any one who has performed it will, I think, admit.

Those who were fortunate enough to witness Mr. Miles' method of emasculation are unanimous in testifying to the skilfulness he exhibited in castrating "rig" horses; but as he maintained a certain amount of secrecy in connection with the operation, his demonstrations could have proved lucid only to those who paid a premium to be "let in" to the "secret."

The subject of the present communication belonged to a battery of artillery stationed here, and, as the horse had become troublesome, removal of the testicle was resolved on.

Through the courtesy of Mr. Fleming, Inspecting Veterinary Surgeon, War Office, who was on a visit to Aldershot, the case was entrusted to me, that gentleman kindly giving me the benefit of his assistance at the operation.

An examination of the inguinal regions did not lead to the detection of the testicle or testicles, but an irregular cicatrix was discernible on the right side.

The horse having been cast with hobbles in the usual manner, was fixed on his back by placing bundles of straw on each side of the shoulders, the back-rope being applied, and an iron "spreader" placed between the hind legs.

Being thus secured, examination *per rectum* was resorted to in order to discover the number and position of the testicles. Careful manipulation could detect only one lying in the right inguinal canal, one extremity just projecting through the internal ring.

Having made an incision through the skin, where the scrotum should have been, on the right side, I inserted my hand, well lubricated with oil, and proceeded to break down the connective tissue between the integument and the external ring. This tissue was very fibrous and resisting, probably from an attempt to

remove the testicle having been made at an early period of the animal's life. The external ring being reached, very little manipulation served to dilate it sufficiently to admit the hand, which was, with a semi-rotatory motion, passed carefully into the inguinal canal; the testicle could then be felt in the position before indicated. Some slight difficulty was here experienced in clearing the organ of its envelopes superiorly, in order to allow the chain of the écraseur to be passed round the vessels to divide them. This was quickly effected, however, and without any hæmorrhage. Dense adhesions had been formed between these envelopes; and a large fibrous band, like a hypertrophied gubernaculum, attached them to the scrotal skin. This had also to be divided by the écraseur, and the organ was then completely removed.

An exploration of the inguinal canal on the other side was now made, and here much less difficulty was found, as the connective tissue was not condensed, and was very readily separable. The internal ring was sufficiently dilated to admit two fingers, which were carefully introduced into the abdominal cavity. The examination proved this testicle to have been removed, in all probability through the incision on the right side, as there was no cicatrix on the left.

The scrotal wounds were cleansed with a moist sponge, no dressing being resorted to. The animal, beyond considerable stiffness and tumefaction for a day or two, suffered little inconvenience from the operation.

The testicle removed was perfectly formed, but much atrophied.

ABSCESS IN THE HEART OF AN OX.

BY J. C. JAMES, M.R.C.V.S., THORNBURY, GLOUCESTERSHIRE.

I HAVE forwarded for inspection a specimen of diseased heart —abscess in the wall of the left ventricle, near the auricular-ventricular opening. The subject was a yearling beast, which was taken ill yesterday (Aug. 28th), and getting worse towards evening, the owner sent for me. Having been out all day, I

sent some medicine, and went this morning, when I found the animal dead.

It was in good condition, and had been quite well, apparently, up to yesterday (Sunday) morning. From what I could gather, the symptoms were, difficult breathing, sometimes moaning; the tongue protruded from the mouth, and the animal appeared very distressed. It died during the night. On making a *post-mortem* examination, I found a large abscess in the liver, and containing about a pint of thick pus. The heart had a portion of the pericardium attached to it, and corresponding to the seat of abscess, which I discovered on stripping off the pericardium. On opening the abscess it contained about a large teacupful of thick pus and a large piece of caseous material. It appears to me to be of a scrofulous nature. You will see it is situated near the auricular-ventricular opening, and on the inside it had just ulcerated through, although the ventricle contained no pus. There are several small places in the heart which appear to be the same disease in its early stages. The other organs appeared healthy.

I sent a similar specimen to Prof. Axe in August, 1873, and a brief report appeared in the *Veterinarian* of Aug. or Sept., 1873. The heart in that case was more extensively invaded—the abscess contained nearly a pint of matter or pus.

[The left wall of the left ventricle contained a cavity 3¼ in. in length and 2 in. in breadth, containing a small quantity of partially inspissated pus, and lined by a tolerably thick layer of connective tissue. Its surface was perfectly smooth and glistening, testifying to the considerable age of the abscess. Superiorly it was limited by the auriculo-ventricular furrow, and communicated with the left ventricular cavity near to the auriculo-ventricular opening. Scattered throughout the left ventricular walls were numerous other small abscesses, varying in size from a pin's head to a pea. Beneath the endocardium were several ecchymosed spots, whilst the endocardium itself was much thicker and less transparent than usual. The bicuspid valve was considerably thickened. The muscular substance of the heart was paler than natural, soft, friable, and easily broken down by pressure of the fingers.

The fact of a large abscess being found in the liver, together

with the multiplicity of the abscesses in the ventricular walls, seems to point to their origin as being of an embolic nature. Which of the two (the large cardiac or the hepatic) abscesses was the primary one, is difficult to determine; in either case, however, one would have expected certain lesions in the lungs. Emboli do, however, sometimes pass through the pulmonary capillaries, which are comparatively large, and become arrested in some part of the systemic circulation. Such, probably, has occurred in this instance. The pyæmic nature of the abscesses is further substantiated by the soft, pale, friable condition of the heart itself. Had it been of a scrofulous or tuberculous nature, we hardly think the heart and liver would have been the only organs involved.]

FRACTURE OF ALL THE SESAMOID BONES.

BY R. F. FROST, M.R.C.V.S., A.V.D., RANGOON, BURMAH.

On yesterday, the 3rd of August, I received the following communication:—"I was driving one of my cousin's ponies this morning, from the mill to the office, when he suddenly stopped, and I suspect with good reason, for, judging from the appearance of his off fore leg, I should say that his sinews have given way. The skin is not broken, but I suppose there is nothing to do but shoot him. Would you see him before this is done?"

I visited the pony at once, and found him in the following condition:—The inferior extremity of the off fore metacarpal bone had protruded through the skin, and the animal was resting on the broken end of the bone, somewhat after the manner of a man standing on a wooden stump. The near fore fetlock had descended, and the pony was resting on it to a slight extent. Both hind fetlocks had descended in a like manner, but not to such an extent as the near fore.

On manipulating the joints I found considerable crepitus, which convinced me that fracture of the sesamoids had taken place in all the limbs.

The animal was destroyed at once.

History.—The pony was a "shan," about sixteen years of age, and had been in his late owner's possession for about eight years, during which time he had been remarkably free from lameness. Recently he had been doing very light work, as he was looked upon as an old friend. His only labour consisted in being driven to the Bazaar, a distance of about three miles, every morning, in a light cart, by the owner's butler. I have known the animal for more than three years, and the only occasion on which he required medical attention was about four months ago, when he was pricked in shoeing; but he soon recovered and was again driven to market, as usual, every day.

My first inquiry, on meeting the gentleman who drove him yesterday morning, was as to whether he had, in driving, struck the pony or caused him to make any sudden forward movement. But he assures me that he did nothing to frighten or excite him. He says he was trotting slowly along, and that for the first half of his journey the animal seemed free and anxious to go, but that after a while he thought he seemed lazy and inclined to slacken his speed. Soon afterwards the pony stopped altogether, and the driver, "thinking that something was wrong with a portion of the harness, or that a stone had got fixed in the foot," ordered the syce to dismount and examine the harness and feet. On the syce reporting that all was right, the pony was again urged forward; but, from the peculiarity of the action, which now became a limp, the owner dismounted and found matters as stated in the first part of this paper.

A description of the morbid condition of the parts, examined twenty-four hours after death, may interest your readers, and in hopes that such may be the case I give the appearances of each limb separately.

Left front limb.—On removing the skin from the knee to the foot, I find considerable infiltration into the connective tissue, from a little below the knee to the coronet. This is owing to rupture of some of the small bloodvessels. On removing the areolar tissue, I find the perforatus tendon slightly lacerated in the immediate neighbourhood of the joint.

The perforans tendon is almost completely lacerated at the point where it glides over the sesamoids. On elevating the

tendons, the joint is found open and the sesamoid bones broken into several pieces. Portions of the bones are adhering to the inferior extremity of the suspensory ligament, and other portions to the superior extremity of the inferior superficial sesamoid ligament. Both the inferior articular surface of the large metacarpal and the superior articular surface of the os suffraginis, give indications of long-standing disease. Absorption of the articular cartilage has taken place to a considerable extent.

Right front limb.—To give anything like an accurate description of the state of this limb is quite out of the question, for the simple reason that the joint is little more than a mass of broken bones, lacerated tendons, and ligaments. The main features to be noticed are fracture of the sesamoid bones into innumerable small pieces, rupture of the fibres of the suspensory ligaments, and both a longitudinal and a transverse fracture of the inferior extremity of the large metacarpal bone. The longitudinal fracture has taken place directly through the centre of the bone, and the transverse breakage is about two inches from the extremity.

Right hind limb.—There is considerable infiltration of blood into the areolar tissue around the joint. The tendons are in a normal state. There is a transverse fracture of each sesamoid, near to its base, and there is laceration of the fibres of the lower extremity of the suspensory ligament.

Left hind limb.—Presents exactly the same appearance as the right hind joint.

I have little more to add beyond the fact that the sesamoid bones in all four limbs seemed to have been in a diseased state for a considerable period previous to the accident. The bones, so far as one could judge by the naked eye, appeared to be spongy and brittle; and this, I have little doubt, was the case, considering the extent of the fractures, some of the bones having been broken into innumerable small pieces.

One is naturally puzzled to account for such extensive fractures as occurred in this case, more particularly as the causes in operation seem to be inadequate to produce such marked results. It seems almost incredible that an animal trotting gently along a smooth road, with a light cart behind him, should suddenly give way in the manner described.

Had he been suddenly and violently urged forward, I could understand fracture occurring in one or both fore limbs, but I am quite at a loss to account for the fracture of all the sesamoid bones, and one large metacarpal bone at the same moment, unless it be allowed that very extensive disease of the bones existed previously.

If fragilitas can exist without an animal showing the least sign of lameness, or even stiffness, I can account for the fractures in this case. I have frequently seen the animal in question, both in harness and when being led out of the stall for my inspection, and never, except when he suffered from the prick of a nail, did he show any lameness.

About two years ago a case of fracture of the sesamoids of both fore limbs occurred in a pony five years old, when being galloped over the "maidan" (or plain) at this station. The ground was as smooth as a billiard-table, and there had been no previous disease, so far as I could tell. (I had carefully examined the pony a short time previously.) I must add that this pony had been taken over a few small fences a short time before the breakdown, and I have no doubt that it was while taking one of the jumps that the breakage occurred, though the broken pieces of bone did not separate immediately. It is frequently the case that displacement does not occur for a considerable time after the fracture has been caused. In this case the pony walked about on the ends of his cannon bones, with the lower portions of the limbs dangling about as if they did not belong to them.

Not quite a month ago a gentleman of this station was driving an old pony in a light cart. The animal had been the subject of repeated attacks of rheumatism, and as a consequence there was considerable thickening of the tissues around the fetlock joints. On the occasion in question the owner touched up the old animal rather smartly with the whip, and immediately afterwards the pony came to a standstill, and could not be induced to move further. I saw the animal soon afterwards, and found that the near hind fetlock was resting on the ground, but there was no crepitus. I recommended that the animal be destroyed, and on making a *post-mortem* examination of the limb, I found both fracture of the sesamoids and rupture of the suspensory ligament.

Fracture of the sesamoid bones of the front limbs is not a rare occurrence in India, but I do not remember to have heard of a case in which the sesamoids of all four legs became involved at the same time.

Horses, when they are very fresh and succeed in breaking loose, are liable to injuries of this nature, especially if they jump fences when the ground is very hard; but I think few cases occur under similar circumstances to those narrated in this instance. The case of fracture mentioned as having happened to the five-years-old pony took place during the monsoon, when the ground was soft and elastic.

DIPHTHERIA IN CALVES.

BY S. M. SMITH, M.R.C.V.S., GRANTHAM.

PERUSING Mr. Fleming's paper on "The Transmissibility of Diphtheria" in the August number of the VETERINARY JOURNAL, I notice he refers to the so-called "Tubercular Stomatitis" of calves by Mr. Macgillivray, of Banff. The following facts may be of service in confirmation of the opinion expressed by Mr. Fleming as to the diphtheritic origin of the disease.

On the 2nd of June I was called to see a calf with an affection of the mouth. On examination I found a very extensive ulcer, with a large slough in the centre, and molecular death going on in the surrounding tissue, situate somewhat laterally at the base of the tongue; while there was another exactly opposite, on the buccal membrane, and extending into the texture of the bone. I removed as much of the *débris* as I could see, but the calf gradually became worse, and died about the 10th of the same month. I made a *post-mortem* examination, and found there were other ulcers, which I had been unable to see, at the root of the tongue, and within the fauces and larynx. On opening the chest I found a quantity of membraneous deposit on the pleural surfaces, and attaching the lungs to the sides of the thorax, the lungs themselves being solid with lymphoid material thrown out into their substance. I brought the jaw, tongue, and section of lung with me, intending to bring them to London (on the occa-

sion of the examination for entrance into the army) to show, but, thinking it would be inconvenient and unpleasant to other candidates, I gave the idea up, and when I returned they were destroyed, the specimens having such a very offensive odour. At the same farm, the owner informed me he had had another calf with a similar attack, which was only slight, and that the animal had recovered.

While attending the calf that died, I was requested to castrate eight others; this I did with the same knife that I had removed the sloughs with—but, of course, after washing it. All the calves swelled a good deal at the seat of operation, and there was a blackish-brown exudate, in the form of a membrane, which collected in the scrotum, besides an offensive discharge—the exudate resembling the deposits we find in the prepuce of a bullock, the mucous membrane of which has been diseased. All these calves, however, recovered from the operation. I could not trace tubercular deposit in the slough from the tongue of the first calf, neither had the lungs any appearance of Tuberculosis. So far there have been no fresh outbreaks on the farm. I do not attribute the swelling which occurred in the other calves to inoculation, but believe they were exposed to the same influences as the calf that died. But it shows how careful we should be in operating on farms where there is any other disease existing of a contagious nature, and also to be sure that our instruments and hands are free from discharges. I do not wish by these remarks to imply that the disease observed by Mr. Macgillivray is not tubercular, as this is the only case of the kind I have seen, and it may not correspond to those observed by that gentleman.

With reference to Mammitis in this neighbourhood, it is almost periodic—so much so, indeed, that it is necessary to have prepared a large quantity of dressing for the mammæ. It is attributed in this locality to atmospheric changes, and is always prevalent after continuous rains, occurring in cows before and after calving, as well as heifers and "drapes," when lying out on damp pastures. We have never looked upon it as contagious, and have had no reasons as yet, in this neighbourhood, for thinking it is so. What relation it may bear to Diphtheria I am unable to say.

THE TRANSMISSIBILITY OF DIPHTHERIA FROM ANIMALS TO MANKIND.

BY GEORGE FLEMING, F.R.C.V.S., INSPECTING VETERINARY SURGEON, ARMY VETERINARY DEPARTMENT.

IN the paper read by me before the Epidemiological Society at University College last May, I gave all the facts then accessible to prove the possibility or certainty of transmission of Diphtheria from animals to the human species. Since that time the following interesting account of an outbreak of the disease, published in the *Sanitary Record* for March 15th, 1881, by Dr. McEwen, has been brought to my notice. As it bears upon the subject of my paper, I beg that it may be received as a supplement thereto. Dr. McEwen writes :—

"This painfully interesting disease—at least, painfully interesting to those who have seen it in its most virulent form, cutting off whole families in periods of time varying from a few days to a few weeks—bids fair now to be better understood than it ever has been. It is to be hoped that, with clearer views of the etiology of the disease, the treatment may be more successful than in a great many instances it has hitherto been, and that in a short time medical men shall be saved the pain of seeing strong, healthy subjects suddenly cut off by a disease that in its worst form has so fatal a tendency.

"It fell to my lot to observe a peculiarly interesting and fatal outbreak of Diphtheria in a rural district in the north of Scotland in the autumn of 1878. The burden of the outbreak fell on a brother country practitioner. It was in the month of August that the disease broke out at a farmhouse in the county of Aberdeenshire. Most of the individuals about the farm (including the servants) were adults. Within a short time, of nine individuals who were attacked, seven died. My friend, the medical practitioner in attendance, at this time delivered the wife of a mechanic who lived at least five miles from the seat of the outbreak. Within a few days of her delivery, Diphtheria appeared in the family, and in a few days more the father and five children were dead of Diphtheria. About the same time he also attended in her confinement the wife of a farm labourer in a small

village further away from the seat of the outbreak. Here, too, not many days afterwards, Diphtheria attacked the family, and carried off father, child, and mother. I here assisted my brother practitioner to perform tracheotomy, in the hope of saving the man's life. While in the house the wife complained of being ill and having a sore throat, and on looking into it there were Diphtheria patches to be seen. I learned afterwards that she also had diphtheritic patches on the vulva. I believe there was also another instance of the unfortunate coincidence of the disease following so fatally in the wake of the obstetrical track of the practitioner in attendance at the seat of the outbreak. This 'unfortunate coincidence,' as I called it at the time in some notes on the treatment of some of my own cases contributed to the *Practitioner*, seems to me now more forcibly than it did even then to be more than a coincidence, and I strongly incline to the view that the public took at the time, viz., that the doctor was the medium through which the infection was carried from the original seat of the outbreak. Nothing satisfactory as to the origin of the outbreak itself could be learned, though there was a popular notion, held by a number of people in the neighbourhood, *that the water used at the farmhouse where the disease first appeared had been contaminated by the decomposed body of a calf said to have died of some throat disease a considerable time before, and to have been buried in such a position that the moisture from it might contaminate the water in the well from whence the drinking-water was drawn.* Popular notions are apt to be despised, and in this particular case I know the notion was despised by those whose opinions were, or ought to have been, of most value. Nevertheless, it is quite possible that the particular organism which at first caused the outbreak of Diphtheria was here generated according to the popular view held at the time, and also that, owing to an innocent want of due caution on the part of the medical attendant, these germs were by him carried far away to other homes, there to develop. Personally I had these suspicions at the time, and I took every precaution, by washing my hands carbolically after seeing a patient with a sore throat of any kind, and by never attending a midwifery case in clothes that I had on when seeing a case of Diphtheria."

GANGRENOUS STOMATITIS—TUBERCULAR STOMATITIS—DIPHTHERITIS?

BY A. E. MACGILLIVRAY, BANFF, N.B.

SINCE the publication of my communication on the above subject, in the VETERINARY JOURNAL for June last, the discussion on same has assumed a new phase—see Mr. Fleming's paper in the September Journal. M. Lenglen, of Arras, designated the disease Gangrenous Stomatitis, while I submitted data to show that it was rather Tubercular Stomatitis; but it seems, from Mr. Fleming's paper, that it had long previously (1877) been correctly named "Diphtheria" by Professor Dammann, of the Hanover Veterinary School.

Although admitting that the cases reported by Dammann are unquestionably analogous to those so often occurring in my practice, I must be allowed most emphatically to question the accuracy of his nomenclature; it is too serious an assertion to be proved by any data brought forward by the worthy Hanoverian professor, whose general trustworthiness, however, I don't for a moment seek to impeach.

The non-identity of this bovine Stomatitis, whether gangrenous or tubercular, with the fatal Diphtheritis of the human subject, will not be a difficult matter to render apparent. The distinctive characteristics of Diphtheria are so well marked that one would think it next to impossible to confound its peculiarities with those of Tubercular Stomatitis; it will happen at times, however, that conclusions will be arrived at with no sufficient evidence to support them: and so it is in this instance.

It were needless here to reiterate all I have written (in the VETERINARY JOURNAL for January and May) about the nature of what I call Tubercular Stomatitis; I shall simply endeavour to show the inaccuracy of attempting to prove that the proper designation of the disease is Diphtheria; and in doing so I will compare, and show the diversity in, the leading characteristics of both diseases—*i.e.*, Diphtheritis and Tubercular Stomatitis.

1. The most distinctive feature of Diphtheria is the formation of false membranes at the seat of the disease; in bovine Tubercular Stomatitis there are no such formations.

2. Diphtheria almost invariably confines itself to the pharynx and immediately contiguous parts; while Tubercular Stomatitis, as has been amply shown, chiefly attacks cheeks, tongue, gums, etc., and very rarely descends to either pharynx or larynx.

3. Diphtheria is generally ushered in by high fever, chills, nausea, vomitions, loss of appetite, etc., a state of matters quickly followed by tumefaction and exudation inside the throat, the exudation forming or being followed by false membranes of greater or less calibre; in juvenile bovines the reverse is the case, for the patients take their diet as usual, the first symptom of anything wrong being generally profuse salivation, which leads to examination of the mouth, and so to discovery of the disease.

4. In Diphtheria we have almost always swelling (outside) of the throat and neck; in this Stomatitis of calves, I have never seen swelling externally anywhere but at the cheeks, and lower lip when the anterior part of the inferior maxilla became the seat of the diseased deposit.

5. Albuminuria very often accompanies Diphtheria in the human subject, but I have never seen nor had reason to suspect anything of this sort in calves.

6. Different kinds of paralyses often occur in diphtheritic patients; but in dozens of cases of this peculiar Stomatitis in bovines, I have failed to meet a single instance of paralysis.

7. The nasal passages and eyes not unfrequently become affected with Diphtheritis, false membranes form, and severe epistaxis sometimes occurs; in the subjects of Tubercular Stomatitis I have never met with either of these complications.

8. One of the things to be most dreaded in all cases of Diphtheria is the occurrence of malignant blood-poisoning, which, of course, cannot well end otherwise than fatally. Now this is a *finale* which has never occurred, in my practice, amongst calves affected with Tubercular Stomatitis.

9. In several cases of this Stomatitis in bovines, I have excised or scraped away from one to two inches at the anterior part or tip of the tongue, the whole substance of the tongue at that part and to that extent having become completely destroyed by the disease, and recovery in all such cases has followed. Now, I can find records of no such occurrence or experience in medical literature;

I don't even find mention made of any formation, however slight, of false membranes about the anterior part of the tongue.

10. On several occasions where the Tubercular Stomatitis has been located at the anterior part of the lower jaw, the disease has dipped so deep that I have had to draw from one to four of the deciduous incisors, and also scrape away part of the jawbone. Nowhere can I find record or mention made of anything similar in the annals of Diphtheritis.

11. Even when this bovine Stomatitis attacks the entrance to larynx, the poor little patients will suck or drink their usual supply of milk, and only succumb to *suffocation*, which is actually the result of the *mechanical* obstruction of the diseased deposit or growth; it is quite the reverse with diphtheritic patients, for they generally lose appetite and all anxiety to partake of nourishment from the first, and sometimes die without the formation of the very slightest false membrane.

I might still further extend the list of antagonisms between the two diseases, but I opine doing so would be quite superfluous, as their non-identity is only too evident.

In Mr. Fleming's interesting article on *Diphtheria*, there are one or two statements so ambiguous as almost to call for flat contradiction: I refer to the following, (1) He says, speaking of this supposed bovine Diphtheria (page 162), "The presence of micrococci is diagnostic of the disease; and (page 166), "Calves are extremely rarely affected with Tuberculosis."

To say that micrococci are diagnostic of this or any other disease, *in particular*, is simply saying what does not coincide with well-ascertained fact; for micrococci are found under a great many pathological conditions, such as—in the pus of Small-pox and Sheep-pox, in the blood of putrid fevers, in the pus of most suppurating wounds, in Erysipelas (Harley), and also in Diphtheria; and I have myself seen them in tubercular matter. These same micrococci, according to some authorities, are spherical bacteria, according to others they are spores of some fungus. More than this, however, certain other authorities maintain that these micrococci, bacteria, etc., are found in millions on healthy surfaces—such as dorsum of tongue, and intestines (Beale), and that they will remain inert on these healthy surfaces, but let them

come in contact with disease tissue or deposit, and immediately activity is rampant, and they will multiply *ad infinitum.*

Micrococci are, therefore, rather concomitant with, than causative of, disease.

Any one interested in the part played in the animal economy, during health and disease, by micrococci, bacteria, spores, conidia, mycelia—in fact, all "disease germs"—can do nothing better than consult the writings of Beale, Harley, and Morrell Mackenzie. There they will find, in good plain English, all *reliable* information on this subject, discussed in quite an unbiassed manner, thus saving the immense labour of wading through and translating foreign authorities.

Mr. Fleming's other statement, that "calves are extremely rarely affected with Tuberculosis," is one that requires only the experience of country practice to show its inaccuracy. As a rule, calves are *fully as often* the subjects of Tuberculosis as any other class of bovines, and I can confidently submit this statement for confirmation to the practically experienced part of our profession. Look to how many sources of contamination calves are open: they may receive it hereditarily; they may imbibe it with their daily nourishment—milk; they may contract it by cohabitation; and their tender age renders them far more susceptible to the reception of the tubercular virus from either of these sources than adults.

Mr. Fleming himself, in so far as I mind, states that milk from tubercular cows is a fruitful source of infantile Diarrhœa, which Diarrhœa results from the irritation caused by the reception of the tubercular virus in the mucous membrane of the intestinal canal. This Diarrhœa is very fatal in children.

In veterinary practice, what is called "White Scour," and "Red Scour," is quite common in calves, and I have reason to know that both these kinds of Diarrhœa are often the result of feeding the calves with milk from tubercular cows. When cough and nasal discharge occur along with "White Scour," the case is clearly one of tubercular origin; and where there are several calves, the malady will not be confined to one, but will spread very quickly if the utmost precaution be not observed. I have made *post-mortems* in a great many such cases, and I can confidently say

that their tubercular origin was but too plainly observable. I have known as many as ten calves succumb at one farm in such an outbreak.

In conclusion, I may be allowed to ask what Mr. Fleming means, when he refers to my description and diagnosis, by saying that "there is evidently nothing analogous to Tuberculosis in the lesions?" Did I not distinctly say that the material from the sores was tubercular? Did I not bring forward data to prove that the patients were almost all traceable to a tubercular origin, or had been in close connection with, or partaking of milk from, animals with tubercular diathesis?

In the VETERINARY JOURNAL for July and August, 1880, in Mr. Fleming's paper on "Tuberculosis," will be found sufficient proof that *all parts of the mouth*, gums, fauces, tongue, palate, etc., are subject to tubercular deposit and ulceration; in fact, Mr. Fleming there tells us that the mucous membrane of the pharynx, etc., may be and has been found thickened, ulcerated, and covered (?) with cheesy deposit, and the base of the tongue with greyish-yellow deposit, and all this from the contact of tubercular matter with these parts. If this be not "Tubercular Stomatitis"—in plain terms—what is it?

Considering all this, it is somewhat questionable to find Mr. Fleming asserting that what I have seen and examined minutely in numerous instances, is "nothing analogous" to what I took it to be—namely, tubercular matter.

[Comments on this communication are reserved until next month.]

ON THE REFUTATION OF THE SO-CALLED SPONTANEOUS GENERATION OF CONTAGIOUS DISEASES; 2. DISEASE GERMS *SUI GENERIS* THE ESSENCE OF CONTAGION, AND DISEASE GERMS CARRIERS OF ANTECEDENT CONTAGION.

BY RICHARD W. BURKE, M.R.C.V.S., ARMY VETERINARY DEPARTMENT.

IN most discussions on the subject of spontaneous generation of contagious disease, disciples of two very diverse schools of

thought take part, viz., those of the *contagious theory* and those of the *spontaneous theory*. Unfortunately for the interests of the subject, and greatly to the confusion and detriment of the humbler followers of these schools, the respective exponents apparently consider their views strengthened and their ends furthered by adopting the most extreme cases as examples, and thereby passing out from the general field, and becoming *ultra-contagionists* or *ultra-spontaneists*, as the case may be. So general is this condition, that a *moderate member* of either branch is decidedly a rarity, if there be one, and few enter the arena of discussion with minds unbiassed and unprejudiced, and ready to judge by generalities, not by exceptions. The general practitioner, perhaps inclined, say, to embrace the *germ theory*, finds, in testing it by the standard of every-day experience, that the brilliant and lucid examples spoken of at meetings, etc., are absent, or but rarely found—that the majority of his cases can only occupy a position *mediate* to the clashing statements to which he has been a listener; the result being that he either abandons both in disgust, or holds by the doctrines endeared to him by age and the precepts of his predecessors. This evil would be avoided if either party deigned to take the *middle* course, by bringing forward cases which would not, perhaps, convince the bigoted, but which, being capable of every-day demonstration, would be appreciated by the many, and thus serve to terminate the question, by a real appeal to the merits of the various theories.

From discussions which have come under my notice, it has occurred to me that many who speak of spontaneous generation (Heterogenesis) do not, apparently, conceive its true significance, inasmuch as they suppose that a disease not a product of antecedent disease is necessarily *spontaneous*. Again, on the other hand, we hear the first authorities in the profession—medical and veterinary-medical—endeavouring to link contagion with contagion (and this not incorrectly, in many cases), and affirming that where there is a missing link it is not because the chain is imperfect, but because our means of observation are imperfect, or our efforts have been expended in following a wrong clue, or, in other words, that contagion is *always traceable*, discernibly

or indiscernibly. Now, this is only partially, not wholly correct; for a disease may not necessarily be *always* traceable, either discernibly or indiscernibly, to an antecedent case, and yet *not be spontaneous*, in the accurate sense of the term. To this, explanation is necessary. A disease germ is a true seed, identical, physiologically, with a vegetable and an animal germ, and created in the beginning, like all living things, it has flourished side by side with animals and with plants, and it, everywhere and at all times, surrounds the earth. Now, change, constant change, is an universal law of nature, and neither the animal nor the vegetable kingdom can enjoy a state of perfect rest. A land which has once flourished will, without warning, be swept by the visitation of a sudden and terribly infectious epizoöty, due, perhaps, to an outburst of disease germs from under the earth's surface, or to their abundant harbour in the surrounding media from afar. Yet, can the development of the epizoöty through such media be said to be *spontaneous?* and is it traceable to an antecedent case? The seed of disease which is everywhere and at all times present, only awaiting a cause to set it into activity, can a disease dependent upon its development, although not traceable to previous disease, be considered "spontaneous"? A contagious disease is, therefore, neither spontaneous nor *necessarily* a product of antecedent disease. But that the great majority of cases are traceable to antecedent disease I am not loath to admit.

Broadly stated, then, my deductions are two: 1. Contagion is not necessarily a product of disease, although a cause of it; 2. Spontaneous generation is a thing impossible. It is possible, therefore, for Rabies to be developed *independent of the saliva* (or any other product) *of a rabid animal received into a wound*, and yet not be spontaneous.

In offering these remarks, I am unaware if they are new to the profession, and in doing so I feel that they are exposed to the scrutiny of those whose thinking powers vastly transcend any which I can bring to bear on the subject.*

* This is a verbatim extract from an essay on "Loodianna Fever," read by me before the Edinburgh Veterinary Medical Association, on the 15th of March, 1881. In the *Medical Press and Circular* for May 11th, 1881, I find

By those who support the spontaneous nature of contagious disease the arguments chiefly urged are: 1. Want of proof of its introduction. 2. The frequent escape of those in the midst of the affected, and the occasional sporadic nature of the malady. 3. The immunity of many places within the affected districts. 4. The limited extension of the disease in certain outbreaks. 5. The disease being frequently incapable of limitation by sanitary measures. But in all these cases it has been found, when narrowly examined, that although probably true in a few hastily observed and in exceptional instances, their general truth is negatived by abundant testimony to the contrary; and in cases where such testimony was wanting, the cause was hidden from us, but which, if revealed, would divulge the essence of the disease. Some have sought to modify the now prevalent view of the exclusively *germ origin* of contagious disease, and have acceded to analogous instances vindicated by "statistics" gleaned from private practice, which are so extremely inconclusive as to make it almost puerile to have brought them forward.* One authority to the present day actually maintains that the instrumentality of food alone is necessary to the development of a well-known specific communicable disease! a disease experimentally demonstrated to be due to the presence of well developed bacteroid forms—*bacilli*.

II. What part does sanitary science play in the prevention of contagious disease?†

For any contagious disease to be rife two conditions are necessary:—

1. That the pabulum adapted for their germs be present, *i.e.*,

that the editor of that journal in many respects supports my own views expressed on the subject, and quotes the words of Dr. Guy and others on the same point.

* Those desirous of acquiring much valuable reliable information may consult, with benefit, the paper on the subject of Contagion by Mr. Fleming, contained in the VETERINARY JOURNAL for June and July, 1880.

† This is also a true extract from the same essay read by me in March last. It, too, is well brought out by the remarks of the editor of the *Medical Press and Circular*, 11th May, 1881. I received no light censure for having promulgated these views on the subject, but I trust I am not "*in a dream*" when such an able authority as the editor of the above journal is, in the main, of the same opinion as myself on the subject.

the animal's system be in a favourable condition for their germinative invasion.

2. That the conditions favourable to their abundant development exist, *i.e.*, the surrounding conditions of the animal be debilitated, from sanitary failure, inducing increased harbour and free multiplication of germs in that surrounding.

The principal predisposing causes of all contagious diseases are two :—1, That the animal's system be lowered ; and 2, That its surroundings be correspondingly lowered. The first of these is only too well recognised ; the second is almost altogether lost sight of—at any rate, it is not viewed in the same light as here represented.

Bad sanitary management is thought *per se* to occasion a contagious disease ; but this is a statement fraught with absurdity. It acts simply as a *predisposing* cause, and this in two ways, viz., 1, *directly*, by inviting germs ; 2, *indirectly*, by deteriorating the animal's system, weakening its functions, and rendering it directly susceptible to bacterial onslaught.

Bad sanitary management, whilst a contagious disease is rife, and, in the case of foreign diseases, whilst their germs are still buried in the neighbourhood, however, acts also as an *actual* cause, by favouring the *conveyance* of the contagia.

The regulation of sanitary measures, therefore, in the latter case (whilst contagion is rife) constitutes a *curative treatment ;* whilst in that of the former (during debility of the surroundings) a *protective* and *restorative treatment.*

But to speak of "permanently" stamping out *indigenous* (*native*) contagious diseases from a country, by even the most stringent sanitary exercise, is a fallacy. We can, however, aspire at such success accruing in the end only in the case of *exotic* (*foreign*) diseases, such as Rinderpest, which we know to have had its origin in Russia ; Distemper in the dog, which is believed to have been brought from Peru (?) ; and other analogous diseases. The latter are capable of extirpation, whilst the former are only capable of modification and temporary abatement. And yet, is not sanitary science to be regarded as an essential subject, if it has achieved this much alone ?

An epidemic (epizoöty) may be said to be the result of a

lowering in the vitality, hygienic conditions, of a locality. Just as an animal system is predisposed by debility from any cause, so, in like manner, are the surroundings in which that animal is located predisposed to disease impressions, to harbour disease germs, from the surrounding atmosphere, as the result of lowering influences occasioned by bad hygiene. In other words, the debility of a locality is the result of bad hygiene.

Editorial.

OUR MOMENTOUS VICTORY.

On September 27th, the day on which Parliament was prorogued, the Veterinary Surgeons' Bill received the Royal Assent, and became law. On that date it was indelibly inscribed on the Statute Book of the realm as the "Veterinary Surgeons' Act, 1881," and several months of intense anxiety and toil on the part of the promoters of the measure came to a happy and almost unexpectedly satisfactory termination. Those of the profession who have, with fear and doubt for its ultimate success, watched the progress of the Bill through both Houses of Parliament, will feel a sense of relief in the knowledge that it is now safe, and rejoice to be informed that it has experienced no damaging alteration in its passage through the Commons, as was anticipated, but that it left the Lower House in the same condition, practically, as it left the Upper House. This is indeed a matter for the warmest congratulation, as there were two or three clauses in the Bill which the most sanguine amongst us could scarcely hope would pass the Commons in the form in which they passed the Lords. Not that the victory has been an easy one, for the opposition in the Lower House was of the most obstinate and formidable character, and at one time looked as if it would really be successful; not because it had any substantial foundation, but from the fact that the session was nearly over, and Government business was so much in arrears that opposed or "blocked" Bills had scarcely a chance of advancing a step. As was reported in our Parliamentary Intelligence for last month, there were no fewer than five distinct motions on the paper to have the Bill thrown out, as well as an amendment which would have had the same effect, and other amendments that would have seriously impaired the value of the measure. How the opposition was cleared away, and how the most pernicious of the amendments were got rid of, would form, perhaps, a rather tedious story to our readers, and one not particularly rife in pleasant reminiscences to those who had the task of demolishing the obstacles in the path. Suffice it to say that these obstacles were encountered and surmounted, and the enemies of the Bill utterly discomfited and ignobly defeated.

By the passing of the Bill the veterinary profession in this country, and indeed in all English-speaking countries, has achieved one of the

most important strides ever yet attempted by it, and one which is pregnant with great results. For it cannot be doubted that our Colonies, having before them the precedent afforded by the mother country, will readily grant protection to duly qualified practitioners who have to contend with unqualified, and in too many instances utterly incompetent, men, greatly to the disadvantage of the public. And even the United States of America, overrun with impostors of every kind, may now see reason to protect and encourage those who have, at heavy sacrifices, prepared themselves for the successful practice of veterinary medicine and surgery.

It is needless to note that, had the Bill been lost, the misfortune would have proved a most serious one, just as its success is one of the brightest bursts of sunshine that has ever been shed upon us. For though we should have undauntedly carried it into Parliament again next session, and the next, and the next, so long as life continued, yet it is not to be concealed that the difficulties would have greatly increased, while the sense of defeat would perhaps have somewhat paralysed the necessary action.

The urgent and absolute necessity for the protection of the veterinary profession and the public from the injury caused by unqualified, and only too frequently most disreputable, ignorant, and dishonest men, has for years been only too apparent, as the number and audacity of these has been rapidly on the increase. Those who best understood the position and requirements of veterinary medicine in these kingdoms had long recognised the need for legal intervention—an intervention which had been successfully invoked to protect and encourage every other profession. The Charter of Incorporation, granted in 1844, was only a small step towards the realisation of this object, as it did little more than constitute the profession a Body which had but trifling power or influence in improving it, or in promoting the welfare of its members, and certainly was utterly impotent in protecting their rights. Its helpless condition has ever been a source of unmitigated regret, and almost despair; for so long as it remained in this plight nothing could be expected but discouragement and annoyance—felt all the more when attempts were made to raise the standard of education, or the position of the profession in this country.

The time had therefore more than arrived when, if it was ever to be done, this state of affairs should be remedied, and the task commenced in 1844 completed. But it was only too evident that, from various causes, the profession could of itself do but little towards the accomplishment of such a work; its influence especially was not sufficiently strong to contend successfully with the opposition certain to be met with; and the disunion existing in its own ranks would still further paralyse it. From the close relationship of the President of the Royal College with the Royal Society for the Prevention of Cruelty to Animals, and the interest it has always manifested in the veterinary profession, its powerful aid was sought in procuring the much-needed protection. On the assumption that the title of veterinary surgeon belonged exclusively to the graduates of the Royal College, a Bill was

drafted with the object of making it illegal for any other persons to retain or adopt this title, or that of M.R.C.V.S., though it did not prohibit them from practising under any other titles. The President of the Society, Lord Aberdare, consented to take charge of the Bill in the House of Lords, and a re-draft having been executed, it was introduced into that House. It was then found that the graduates of the Royal College had no just claim to be exclusively designated Veterinary Surgeons, as there was no law to prevent any one adopting the title; and anything that was done in the way of restraint must be prospective. A Charter does not constitute a law, but merely confers privileges which, again, have to be protected by Act of Parliament. This protection our Charter had never received, and therefore those who assumed the title of veterinary surgeon were not acting unlawfully. The Lord President of the Privy Council, Earl Spencer, than whom the Royal College never had a warmer friend, saw the unfortunate position in which the profession stood, and did his utmost to ameliorate it. After much writing, consultation, and deliberation, a number of amendments were introduced by him into the Bill, which was thereby almost completely changed in aim and scope, and vastly improved. Recognising the fact that those who had adopted the title of veterinary surgeon had not infringed any law, and that consequently they could not be deprived of the title, it was at first decided that from and after the passing of the Bill no other persons should be permitted to so designate themselves, as was the case with regard to the Surgeons' and Dentists' Acts. But the strongest possible arguments were employed to make the operation of the Bill to some extent at least retrospective, and these had some effect; as this retrospect was eventually carried to five years, on the plea that during this time the period of study had been increased, and the examinations for the diploma of the Royal College been made much more stringent, that nearly all the rejected students went into practice under the title, and that the number of incompetent unqualified men had become vastly augmented. Though there was little prospect that this concession would be granted by Parliament, as laws are, as a rule, never made retrospective, it was admitted into the Bill.

With the progress of the measure through Parliament our readers are already acquainted. That it is now law is largely due to the Society for the Prevention of Cruelty to Animals, and its excellent Secretary, Mr. Colam—no less than to its noble President, Lord Aberdare. A full measure of gratitude is due to these, as well as to the Lord President of the Privy Council, and the Vice-President, the Right Honourable A. J. Mundella, to whose care the Bill was consigned in the House of Commons, and to whose determination and judicious management the passage of the measure intact through that House is mainly to be ascribed. There are others to whom sincere thanks must be tendered, for their generous assistance in passing such an important Act in favour of a profession which has hitherto had but few friends in these kingdoms, and has had to fight its way to the front as best it might.

The history of the Act has thus far been dealt with, and it will now be necessary to briefly glance at the practical scope and effect of the measure, which is annexed to this article.

In the first place, it places us on a footing such as we have never enjoyed in this country, but which has been accorded to other professions. The Royal College of Veterinary Surgeons is now recognised and legalised by Act of Parliament, and brought into direct *rapport* with the Government, as the medical profession now is through the Medical Council; and this is an advantage not to be overlooked, as it gives the nation a direct interest in our success and material prosperity, while relieving us of some serious responsibilities. Clauses 3, 5 to 13, deal with the very important subject of Registration, as the Register of Veterinary Surgeons shall be accepted as evidence in all cases that the persons therein named are *legally* registered. These clauses provide for the publication and correction of the Register, and the removal or restoration of names. Clause 6 defines the conditions and offences upon and for which the names of *mauvais gens* who dishonour the profession may be removed, empowers the Council of the Royal College to remove them, and shields that body from prosecution by giving the culprits right of appeal to the Privy Council. By Clause 10, the registrars of deaths in the United Kingdom must report the decease of registered practitioners; and Clauses 11 and 12 give the penalties for obtaining registration by false representation or wilful falsification of the register. In Clauses 13 and 14, provision is made, subject to the decision of the Council of the Royal College of Veterinary Surgeons and the Privy Council, for the registration of colonial and foreign practitioners who hold recognised diplomas. The fairness and generousness of this are obvious; for while we are free-traders in science we could not decently compel graduates in science to enter our schools as students, and graduate again before being eligible for registration. We trust our foreign colleagues will appreciate and reciprocate this compliment. Clause 4 is of minor importance, as it merely provides for the examination of veterinary students in the three kingdoms, provision for which had already been made in the byelaws of the Royal College; while Clause 14 gives parliamentary confirmation of the charters of the Royal College.

Clauses 15, 16, and 17 are, doubtless, the most important in the Act. The preamble states that it is expedient that provision be made to enable persons requiring the aid of a veterinary surgeon, to distinguish between qualified and unqualified practitioners; and this the clause does, by requiring that the former shall occupy one register, and the latter another register, the two being perfectly separate and distinct, and the unqualified being placed under the heading of "Existing Practitioners," to distinguish them still more from the qualified, while it is explicitly stated that they are not to be deemed members of the Royal College. Surely, no greater benefit than this could have been desired under the circumstances. The more reasonable members of the profession have never expressed a wish for more than that the public should be able to distinguish between the qualified and unqualified, and here the wish is gratified; for the register, which is to be accepted as evidence in courts of law and elsewhere, plainly and distinctly indicates who are and who are not qualified. Surely there is nothing undignified or

humiliating to the profession by this registration! And this distinction will be no benefit, we venture to think, to the unqualified, except in so far as it will protect them from the penal operation of the Act as applicable to unregistered persons. But in order to be registered as an unqualified practitioner, a person must furnish the strongest proof that he has continuously practised veterinary surgery in the United Kingdom for not less than five years before the passing of the Act, and pay such fees and conform to such other matters as the Council of the Royal College, with the sanction of the Privy Council, requires. Registration must be effected before August 27th, 1882, after which no unqualified person can be registered; so that, practically, the law only allows those who practised veterinary surgery previous to August 27th, 1876, without qualification, to register, and these must comply with paragraph 2 within another twelvemonths. Clause 11 will apply to these persons, so far as false representation is concerned, as well as Clause 6 for removal from the register for disgraceful conduct. It must be remembered that every year the register of unqualified persons will diminish, until finally it is a blank; while that of the members of the Royal College will increase until, we pray, time itself shall cease. Clause 16 renders it penal, from the passing of the Act, for any person not being a fellow or member of the Royal College, to adopt anything in the way of name, title, addition, description, initials, or letters after his name, or otherwise stating or implying that he is a graduate of the Royal College. What more could be desired in the way of protection to the profession, or the prevention of imposition? Clause 17 virtually extinguishes the unqualified practitioner after 1883, as unless a person is registered, or at the passing of the Act held the veterinary certificate of the Highland and Agricultural Society, he cannot practise under any name or title, neither can he sue for services rendered with respect to veterinary medicine or surgery. Clause 19 specifies that prosecutions may be instituted by the Royal College, or by private persons with its consent. Clause 20 is evidently superfluous, and was tacked on to the Bill as an amendment by Mr. Newdegate, M.P., on behalf of the Royal Veterinary College.

Such are some of the more important features of the Veterinary Surgeons Act, though there are others less obvious, but none the less valuable; and we are certain it will be hailed by those who know the position and requirements of veterinary science in this country, as the greatest boon that could possibly be conferred upon it. Our profession is now freed from the fetters that have for so many years cramped and crippled it, and is lifted out of the slough of despondency and degradation in which it had hitherto helplessly lain. In the honourable position in which it is now placed by the country, it has a bright present and a brilliant future, if it only be true to itself, and employ to the best advantage the privileges which accompany its emancipation. The benefits the Act confers are great now, but as time rolls on they will increase in value and magnitude; a sure foundation has been laid for an ever-progressing and prosperous career, and as the nation has so generously and liberally recognised our claims, so it will, doubtless, expect that we

shall not abuse the trust and confidence it reposes in us. Heavier responsibilities are placed upon every member of the profession, but particularly upon the Council of the Royal College; but we are confident that these responsibilities will be neither timidly evaded nor lightly encountered, and that an honest and enlightened determination to carry out his duties and prove himself worthy of his exalted position, will animate every graduate of our now legally acknowledged and protected corporation.

THE VETERINARY SURGEONS ACT, 1881.

44 and 45 VICT., CHAPTER 62.

An Act to amend the Law relating to Veterinary Surgeons, 27th August, 1881.

Whereas it is expedient that provision be made to enable persons requiring the aid of a veterinary surgeon for the cure or prevention of diseases in or injuries to horses and other animals, to distinguish between qualified and unqualified practitioners:

Be it therefore enacted by the Queen's most Excellent Majesty by and with the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parliament assembled and by the authority of the same as follows:

Short Title. 1. This Act may be cited as the Veterinary Surgeons Act 1881.

Interpretation. 2. In this Act—

"The Royal College of Veterinary Surgeons" means the Royal College of Veterinary Surgeons incorporated and regulated by a charter and two supplemental charters granted by Her Majesty in the years 1844, 1876, and 1879 respectively.

"The Registrar" means the Registrar for the time being of the said Royal College.

"Veterinary surgery" means the art and science of veterinary surgery and medicine.

Provisions as to register of veterinary surgeons. 3. (1) The register of members of the Royal College of Veterinary Surgeons directed by her Majesty's said Royal Charter of 1876 to be made and maintained, shall be styled the Register of Veterinary Surgeons, and shall be kept as accurately as possible by the Registrar.

(2) The Council of that College shall cause correct copies of the said register to be from time to time and at least once a year printed under their direction and published and sold, and such copies shall be admissible in evidence.

Provision for examination of students in England, Scotland, and Ireland. 4. The Royal College of Veterinary Surgeons shall be bound to make provision in the manner permitted by their charters for the examination in England of the students attending the Royal Veterinary College, and in Scotland of the students attending the several Scotch Veterinary Colleges, and in Ireland whenever a Veterinary College shall be established in that country, and to admit and register such students as have passed the examination as members of the said Royal College under the provisions of such charters and this Act.

Correction of register. 5. (1) The Registrar shall from time to time insert in the register of Veterinary Surgeons, any alteration which may come to his knowledge in the name or address of any person registered.

(2) The Registrar shall remove from the said register the name of every deceased person.

(3) The Registrar may remove from the said register the name of a person who has ceased to practise, but not (save as hereinafter provided) without the consent of that person.

(4) Where the Registrar has reason to think that any person registered has ceased to practise, the Registrar may send by post to such person a notice inquiring whether or not he has ceased to practise or has changed his residence; and if the Registrar does not within three months after sending the notice receive any answer thereto from such person, the Registrar may within fourteen days after the expiration of the three months send him by post in a registered letter another notice referring to the first notice, and stating that no answer thereto has been received, and if the Registrar does not within one month after sending the second notice receive any answer thereto, such person shall for the purpose of the present section be deemed to have ceased to practise, and his name may be removed accordingly.

(5) In the execution of his duties the Registrar shall act on such evidence as in each case appears sufficient.

Removal of name from register.

6. The power conferred by the said Supplemental Charter of 1867 on the Council of the said Royal College, at a meeting the Council, at which not less than two-thirds of the members are present, and with the consent of three-fourths of the members so present, but not otherwise, to remove a name from the register of Veterinary Surgeons may be exercised in respect of any person who is at the passing of this Act on that register, or who is after the passing of this Act placed thereon under the said charters or this Act, but in the following cases only (that is to say), at the request or with the consent of the person whose name is to be removed, or where a name has been incorrectly entered, or has been fraudulently entered or procured to be entered, or where a person registered has, either before or after the passing of this Act, and either before or after his registration, been convicted, either in Her Majesty's dominions or elsewhere, of an offence which, if committed in England, would be a misdemeanour or higher offence, or where a person registered is shown to have been guilty, either before or after the passing of this Act, and either before or after his registration, and either in Her Majesty's dominions or elsewhere, of any conduct disgraceful to him in a professional respect.

Restoration of name to register.

7. (1) Where the Council of the said Royal College have removed the name of any person from the register of Veterinary Surgeons, the name of that person shall not be again entered in the register except by a resolution of the Council passed under this section, or by order of a court of competent jurisdiction.

(2) The Council may by resolution passed by a like proportion of their number as is for the time being required for the removal of a name from the said register, direct the Registrar to restore to the register any name removed therefrom, either without fee or on payment of such fee not exceeding the registration fee as the Council from time to time fix, and the Registrar shall restore the same accordingly.

(3) The name of any person removed from the said register at the request of such person or with his consent shall, unless it might if not so removed have been removed by order of the Council, be restored to the register, on his application and on payment of such fee not exceeding the registration fee as the Council from time to time fix.

Proceedings for removal or restoration of name.

8. (1) The Council of the said Royal College shall, for the purpose of exercising in any case the power of removing a name from or of restoring a name to the register of Veterinary Surgeons, ascertain the facts of the case by a committee of the Council, the

powers of the committee being exerciseable by not fewer than three members of the committee; and the report of the committee, after hearing the person concerned, if he so desires, shall be for the purpose aforesaid conclusive as to the facts, but so that the Council shall form their own judgment on the case independently of any opinion of the committee.

(2) If in any case the Council determine to remove the name of any person from the register of Veterinary Surgeons, or not to restore thereto the name of any person, the Council shall, if required by him, state in writing the reason for that determination, and he may appeal to the Privy Council; and the Privy Council, after communication with the Council of the said Royal College and the appellant, may either dismiss the appeal, or order that Council not to remove the name of the appellant, or to restore his name, as the case may require.

Evidence of registration.

9. A copy of the register of Veterinary Surgeons for the time being purporting to be printed and published in pursuance of this Act shall be evidence in all cases (until the contrary be made to appear) that the persons therein named are on the register of Veterinary Surgeons; and the absence of the name of any person from such copy shall be evidence (until the contrary be made to appear) that such person is not on that register: Provided that in the case of any person whose name does not appear in such copy a certified copy under the hand of the Registrar of the entry of the name of such person in the said register shall be evidence that such person is on the said register.

Notice of death of practitioners.

10. Every registrar of deaths in the United Kingdom on receiving notice of the death of any person on the register of Veterinary Surgeons, shall forthwith transmit by post to the Registrar a certificate under his hand of such death, with the particulars of time and place of death; and on the receipt of such certificate the Registrar shall erase the name of such person from the register of Veterinary Surgeons, and shall transmit to the said registrar of deaths the cost of such certificate and transmission.

Penalty on obtaining registration by false representation.

11. Any person who wilfully procures or attempts to procure himself to be placed on the register of Veterinary Surgeons by making or producing or causing to be made or produced any false or fraudulent declaration certificate or representation either in writing or otherwise, and any person aiding and assisting him therein, shall be deemed guilty in England or in Ireland of a misdemeanour and in Scotland of a crime or offence punishable by fine or imprisonment, and shall on conviction thereof be liable to a fine not exceeding fifty pounds or to be imprisoned with or without hard labour for any term not exceeding twelve months.

Penalty for wilful falsification of register.

12. If the Registrar wilfully makes or causes to be made any falsification in any matter relating to the register of Veterinary Surgeons he shall be deemed guilty of a misdemeanour and shall be liable to a fine not exceeding fifty pounds, or to be imprisoned with or without hard labour for any term not exceeding twelve months.

Registration of colonial or foreign practitioner with recognised diploma.

13. (1) Where a person shows that he holds some recognised veterinary diploma granted to him in a British possession, and either that the grant of such diploma occurred when he was not domiciled in the United Kingdom, or in the course of a period of not less than five years during which he resided out of the United Kingdom, or, if he was practising veterinary surgery in the United Kingdom at the passing of this Act, that he has practised veterinary surgery for not less than ten years, either in the United Kingdom or elsewhere, he shall upon payment of the registration fee be entitled without examination in the United Kingdom to be registered as a colonial practi-

tioner in the register of Veterinary Surgeons and to become to all intents a member of the said Royal College.

(2) Where a person shows that he obtained some recognised veterinary diploma granted in a foreign country, and either that he is not a British subject, or, that if a British subject he has practised veterinary surgery for more than ten years elsewhere than in the United Kingdom, or if he was practising veterinary surgery in the United Kingdom at the passing of this Act for not less than ten years, either in the United Kingdom or elsewhere, and either continues to hold that diploma or has not been deprived thereof for any cause which disqualifies him for being registered under this Act, he shall, on payment of the registration fee, be entitled without examination in the United Kingdom to be registered as a foreign practitioner in the register of Veterinary Surgeons and to become to all intents a member of the said Royal College.

(3) For the purposes of this section a veterinary diploma is any diploma, licence, certificate, or other document granted by any university, college, corporation, or other body in respect of veterinary surgery, and includes a licence or authority to a person to practise veterinary surgery granted by any department of or persons acting under the authority of the Government of the country or place within or without Her Majesty's Dominions wherein the licence or authority is granted; and a British Possession is any part of Her Majesty's Dominions out of the United Kingdom; and a recognised veterinary diploma is a veterinary diploma recognised for the time being by the Council of the said Royal College as furnishing a sufficient guaranty of the possession of the requisite knowledge and skill for the efficient practice of veterinary surgery, and as entitling the holder thereof to practise veterinary surgery in the British Possession or foreign country wherein the diploma was granted.

(4) If a person is refused registration as a colonial practitioner, or as a foreign practitioner, the Council of the said Royal College shall, if required by that person, state in writing the reason for that refusal, and if that reason be that the veterinary diploma held or obtained by him is not a recognised veterinary diploma, that person may appeal to the Privy Council, and the Privy Council, after communication with the Council of the said Royal College and the appellant, may either dismiss the appeal or order that Council to recognise that veterinary diploma.

Confirmation of charters.

14. The said charters of the Royal College of Veterinary Surgeons are hereby confirmed, and are declared to be and shall be in full force and virtue, except as far as the same are by this Act altered, or as the same are inconsistent with this Act, but not so as to prevent the making of any amendment thereof or addition thereto by any supplemental Royal Charter not being inconsistent with this Act.

Title of existing veterinary practitioners to be registered in college.

15. (1) Where at the passing of this Act any person practises and has continuously for not less than five years next before the passing of this Act practised veterinary surgery in the United Kingdom, but is not on the register of Veterinary Surgeons, he shall be entitled, subject to the provisions of this Act, to be placed on a separate register under the heading of "Existing Practitioners," without examination, on such terms as to payment of fees, and as to other matters, as the Council of the said Royal College, with the approval of the Privy Council, direct.

(2) On any person applying for registration under this section within one year after the passing of this Act, and thereupon, or within a reasonable time thereafter, producing to the Council of the said Royal College evidence of his title to registration by statutory declarations of himself and of other persons able to testify on his behalf, or such other evidence as that Council

may reasonably require, he shall be registered under direction of that Council accordingly.

(3) If a person is refused registration under this section the Council of the said Royal College shall, if required by him, state in writing the reason for that refusal, and he may appeal to the Privy Council; and the Privy Council, after communication with the Council of the said Royal College and the appellant, may either dismiss the appeal or order that Council to register the appellant under this section.

(4) No person registered under this section shall be deemed to be a member of the said Royal College within the said charters or this Act.

Penalty on false representation as to membership of college.

16. If after the passing of this Act any person not being a fellow or a member of the Royal College of Veterinary Surgeons takes or uses any name, title, addition, or description, by means of initials or letters placed after his name, or otherwise, stating or implying that he is a fellow or a member of the Royal College of Veterinary Surgeons, he shall be liable to a fine not exceeding twenty pounds.

Penalty on misrepresentation after 1883 as to qualification to practise and in capacity to recover fee, etc.

17. (1) If after the thirty-first day of December one thousand eight hundred and eighty-three any person, other than a person who for the time being is on the register of Veterinary Surgeons, or who at the time of the passing of this Act held the Veterinary Certificate of the Highland and Agricultural Society of Scotland, takes or uses the title of Veterinary Surgeon or Veterinary Practitioner, or any name, title, addition, or description stating that he is a Veterinary Surgeon or a Practitioner of Veterinary Surgery or of any branch thereof, or is specially qualified to practise the same, he shall be liable to a fine not exceeding twenty pounds.

(2) From and after the same day a person other than as in this section mentioned shall not be entitled to recover in any court any fee or charge for performing any veterinary operation, or for giving any veterinary attendance or advice, or for acting in any manner as a Veterinary Surgeon or Veterinary Practitioner, or for practising in any case veterinary surgery, or any branch thereof.

Exercise of powers of Privy Council.

18. (1) All powers vested in the Privy Council by this Act may be exercised by an Order of Council made by two or more of the Lords and others of Her Majesty's Most Honourable Privy Council.

(2) An order made by the Privy Council under this Act may be made conditionally or unconditionally, and may contain such terms and directions as to the Privy Council seem just.

(3) The Council of the said Royal College shall forthwith obey any order of the Privy Council under this Act, and observe and fulfil all conditions, terms, and directions therein contained.

Summary proceedings for fines and imprisonment. 11 and 12 Vict. c. 43. 42 and 43 Vict. c. 49. 27 and 28 Vict. c. 53.

19. Fines and imprisonment under this Act may be recovered and imposed summarily that is to say—

in England in manner provided by the Summary Jurisdiction Act 1848 and the Summary Jurisdiction Act 1879 and any Act amending either of those Acts;

in Scotland before the Sheriff or Sheriff-substitute or two justices in manner provided by the Summary Procedure Act 1864 and any Act amending the same;

in Ireland within the police district of Dublin metropolis in manner directed by the Acts regulating the powers and duties of justices of the peace for such district or of the police of such district, and elsewhere in Ireland before two

or more justices of the peace in manner directed by the Petty Sessions (Ireland) Act 1851 and any Act amending the same.

14 and 15 Vict. c. 93.

A prosecution under this Act may be instituted by the Council of the Royal College of Veterinary Surgeons but shall not be instituted by a private person without the written consent of the said Council.

Saving rights of the Royal Veterinary College.

20. Nothing in this Act shall affect the charter and supplemental charter granted by Her Majesty to the Royal Veterinary College in the years 1875 and 1877 respectively, or any of the property, rights, powers, and privileges of that College thereunder.

THE REGISTER OF VETERINARY SURGEONS.

THE Register of Members and Fellows of the Royal College of Veterinary Surgeons, corrected to September, 1880, is now out of print, and a new issue must be published early next year. It is, therefore, earnestly requested that any change of residence, retirement from practice, deaths, or other information necessary in order that the Register be prepared according to Act of Parliament, may be reported to the Secretary, 10, Red Lion Square, W.C., without delay.

EXCERPTS FROM CONTINENTAL VETERINARY JOURNALS.

BY J. H. STEEL, ARMY VETERINARY DEPARTMENT.

THE recent improvements and suggestions in PRACTICAL SURGERY made by our continental *confrères* next require notice. M. Bouquet, Government Veterinary Surgeon of Roeuly, gives his *New Method of Treatment of Umbilical Hernia by Wooden Clamps.* "In cases of simple umbilical hernia of some size, one of the most simple and efficacious methods of treatment is by the wooden clamps. With the iron clamps we run the risk of dividing the skin and producing fatal protrusion of the bowel. The two divisions of the wooden clamp are maintained in contact by means of an ordinary ligature; to bring them together the operator either uses the fingers or the clamp compressor. To obtain as perfect compression as possible, I have designed pincers and two rings. The two branches of the *pincers* are approximated by a screw moving through one and fixed to the other; a spring is so arranged as to separate the branches when the screw is undone. At the free end of each branch is a large grasping portion, slightly hollowed longitudinally, which allows the instrument to exactly grasp the middle of the clamps and to bring them together as most convenient. A transverse depression at the end, on the free margin of each grasping part, adapts the instrument for ordinary castration. The *rings*, true clamp compressors, have a screw-perforated bezel, through which runs an ordinary thumbscrew. With these I employ the curved wooden clamps, prepared in the usual way, with a groove at each end to retain the ligatures. To operate, I throw the patient on his back, and keep the four limbs in the air by means of the hopple rope passed over a beam or the branch of a tree; then I reduce the hernia as suggested by M. Deneubourg. The intestine having been returned, I take the hernial sac and fold it longitudinally along the middle line; an assistant then takes the ordinary pincers, opened, and passes it, perpendicularly to the belly, on the middle of the fold between the two hands, very near the navel. Whilst he presses on the pincers and greatly stretches the skin, I apply the clamps against the abdominal walls and fix them by means of a second ligature. I then take

my pincers and apply them on the middle of the clamps, and compress as much as possible. I then hand it to an assistant and place one of the rings on each extremity of the clamp, and I turn the screw of each ring in such a manner as to secure even approximation of the two clamps. I then remove my pincers and pass two or three shoeing nails below the clamps to prevent their shifting, and I bend the extremity of each nail. The clamps and contents fall off *en masse* in eight or ten days." (*Ann. de Méd. Vet.*, June, 1881, where are given illustrative plates.)

In a very interesting article, *On the Part played by the Inguinal Ring in Strangulated Hernia of the Horse*, given in the *Recueil de Méd. Vét. Pratique* for 30th January last, M. Palat tries to prove from anatomical and pathological considerations, that in cases of strangulated hernia the compression takes place as Girard, Renault, and D'Arboval supposed, by the margin of the inguinal ring, and not, as M. Bouley has since taught, at the level of the neck of the vaginal sheath. He says: "If in the dead animal we open the scrotum we may assure ourselves of this. The sheath gives the sensation of a narrowness, as of a glove finger, whilst the lips of the ring give that of a band, fibrous cord, or loop." Thus the inguinal ring performs the principal part in strangulation, the neck of the vaginal sheath only acting in a minor, secondary manner. "*Conclusion.*—If we pass a finger along the herniated intestine, we can easily reach as far as the inguinal ring, which seems a very much stretched loop. It is that loop which forms the cord which we must carefully divide by several very small and well regulated nicks if we wish to succeed in our operation for the return of the hernia." (*Ann. de Méd. Vet.*)

Dr. Gelineux suggests as a modification of Allingham's treatment with strong nitric acid dressings for Prolapsus Recti, the use of the perchloride of iron in preference to the stronger caustic. He first dresses the exposed mucous membrane, then passes a plug steeped in the solution into the bowel, and fixes on a compress, also steeped in the solution, by means of a bandage. The injection requires to be several times repeated, and the action of the bowels constantly regulated. Doubtless this method might be beneficially adopted in other forms of prolapsus.

Feser records, in the *Wochenschrift für Thierheilkunde*, his experiments to determine the therapeutic dose of nitrate of strychnia in subcutaneous injection and in draught. He used 1 % solution (1 gramme of the salt to 100 grammes of distilled water), so that each gramme of the solution represented 1 centigramme or 10 milligrammes of the salt. Thus it was easy to determine the exact amount employed; the dose was decided by the weight of the living animal, whatever its species.

Horse.—Three experiments showed hypodermic dose. Dose by stomach :: 1 : 5. We may inject without fear 1-2 milligrammes of the agent per kilogramme of weight of the animal; 4 milligrammes caused speedy death. Therapeutically, we should always commence with a moderate dose. Thus, to a horse of 500 kilogrammes weight give 25 centigrammes by the mouth, or inject 5 centigrammes; give two doses daily, at six or eight hours' interval (*i.e.*, for horse of average weight, dose *per diem*, about thirteen grs.; subcutaneously, 12 grs.).

Ox.—Results from thirty-five experiments on four animals. Dose, 2 milligrammes per kilogramme of weight. With 1 milligramme no apparent effect; with 3 milligrammes severe symptoms, even fatal with weak subjects. A subcutaneous dose of 1 milligramme may be repeated every two hours, and one of 2 milligrammes every five or six hours, but then its action must be very carefully watched.

Sheep.—Thirty-two experiments. Dose for subcutaneous injection, 1-2 milligrammes per kilogramme; 4 milligrammes causes death. Dose by mouth ten times as great.

Pig.—Subcutaneously: Dose, 2-3 milligrammes per kilogramme of weight, repeated every five or six hours; 6-7 milligrammes causes death. Internally, 4-10 milligrammes may be given; 18-20 milligrammes causes death.

Dog.—Fifty-three experiments. Subcutaneous: Dose, 1 milligramme per kilogramme of weight; 3-4 milligrammes may cause death. By mouth, 5-6 milligrammes in a small piece of meat. A dose of 1 milligramme should not be given more than three times *per diem*, and of 2 milligrammes not more often than twice daily.

Cat.—Twenty-four experiments on eight animals. Dose very nearly the same as for dog: 1 milligramme injected beneath skin produces no appreciable effect, 2 milligrammes acts markedly, and 3 milligrammes generally causes death. This animal can take 2-4 milligrammes by the mouth, but 6 milligrammes causes death.

Young animals are less susceptible to the action of strychnia than adults, herbivora than carnivora. Strychnia is frequently used in dosimetric therapeutics. M. Landrin employs it daily in cases of Paralysis, Typhoid Fever of the horse, dropping after calving, etc. "Combined with arsenic, strychnia proves an excellent means of controlling the circulation and the secretions." He employs the arseniate in doses of half milligramme by the mouth. (*Recueil de Méd. Vét.*, April 30th, 1881.)

ABSTRACT OF SOME EXPERIMENTS WITH REGARD TO THE EFFECTS OF ELECTRICITY ON RABBITS.*

BY DR. H. NOTHNAGEL.

WHEN an electric shock of moderate intensity is passed through a hind limb, *sensibility* is lost from the hock downwards. If the shock be passed from the tail to the fore limb, the tail to that part where the muscle commences, and the fore limb below the carpus, are anæsthetised. Dr. Nothnagel explains this by saying, that the effects of the shock vary with the *diameter* of the part through which it passes; thus in the two preceding cases, the lower parts of the limbs and the end of the tail are the smallest parts through which the shock passed. In order to substantiate this view, he argued that a stronger shock ought to extend the area of insensibility, and this he found to be the case.

The results he found to vary, according to where the current entered and took its exit. Thus, if the *foot* was not included between the electrodes, no insensibility resulted, except at the points of entrance and exit of the shock.

With regard to paralysis, he found it could only be produced when a strong shock was passed from one hind leg to the other. If the shock passed from the tail or sacrum, or from a fore foot to the toes of a hind limb, no paralysis was produced, at least with the strength of current he used.

Neither the loss of sensation nor the paralysis, when produced, lasted more than two or three hours.

He obtained similar results when wounds were made through the skin, so that the electrodes were not in contact with the skin, showing that not only the skin but other tissues were also affected. He also extirpated the tibia without altering the results, thus showing that the bones were not the channel through which the shock passed.

Arago says: "When lightning strikes men or animals arranged in a row,

* Translated from "Virchow's Archiv," vol. 80, part ii., page 327. 1880. By G. A. B.

its effects are most marked and dangerous to those at the ends." This, says Dr. Nothnagel, may, by analogy, explain to some extent the results he obtained. Why did the anæsthesia remain confined to the feet and tail? Why was it absent when the electrodes were placed on the more bulky part of the body? And why was anæsthesia absent when both electrodes were placed above the foot?

Unfortunately we know very little of the conductibility, or *vice versa*, of the different parts of the body; therefore, we cannot apply our knowledge of the physical laws of the passage and distribution of electricity.

The effect is most intense at the points of entrance and exit, and less marked in the intermediate parts; and this appears to vary with the diameter of the parts. Thus the intensity of the mechanical, or other action of an electric stroke, varies in proportion to the transverse section and conductibility of the body through which it passes. If we take the case of the electric stroke entering at the tail and passing out at the side of the body, we see the tail possesses a very small diameter, whereas the body is comparatively large; hence the physiological action will be more marked in the tail than the body, and this is found experimentally to be the case, for the tail alone loses its sensibility.

Dr. Nothnagel accounts for the sudden cessation of the anæsthesia in his experiments from the sudden increase in the diameter of the parts, namely, the commencement of muscles. The same is the case in the feet; for, independent of the bones being bad and the soft structures good conductors, we find the tranverse section is smallest at the feet. Again, whenever the shock increased he found the anæsthesia extended higher up the limb or tail. He explains the fact, that no results are obtained when both electrodes are on the soft textures, by saying, that the electricity diffuses itself in the soft tissues (good conductors); but if stronger shocks are used, the physiological result (paralysis) would be obtained, especially if the surface by which it was introduced were made to cover a broader surface. He also found that at the points of entrance and exit of the shock anæsthesia was present, and when applied directly in the neighbourhood of a large nerve trunk the whole limb was insensible and paralysed.

Conclusions.—With regard to sensibility:—

1. The shock may produce local disturbances of the peripheral sensitive nerves.

2. The degree of extension depends upon the strength of the shock, and also upon the point of its entrance and exit.

3. That after these disturbances the tissues soon return to their normal condition; and, therefore, do not depend upon any anatomical alterations.

4. The localised sensitive effect of shocks simply depend upon the laws of conduction, distribution, and action of electricity on the tissues.

Effects on the motor powers:—

When a shock is passed, the limb is sharply contracted and extended (convulsed), and after a time the whole body is more or less convulsed. The cries of the animal are produced later. This led Dr. Nothnagel to think that they might be due to the strong contractions of the limbs, and not to the pain produced by the shock.

He found that slight shocks did not produce paralysis, and that strong ones were most certain to produce it when passed in certain directions. For instance, if a strong shock was passed in the direction of the nervus ischiadicus of one leg to that of the other, both legs were paralysed; but he never succeeded in producing paralysis when one hind leg and one fore, or the sacrum to the toes, or tail to toes, were included between the poles.

The paralysis, like the anæsthesia, passed away after a short time, the animal regaining motor power even quicker than sensibility.

He is not prepared to say whether the paralysis is due to a functional disturbance of the muscle itself, or to the motor branches of the nerves or their endings. Against the branches of nerves being involved, is the fact that they respond to electric stimulation.

The atrophy which accompanies the paralysis is, in his opinion, due to a direct influence on the muscular substance, although it is possible it may be simply due to rest.

INOCULATION OF MONKEYS WITH TUBERCLE.

SOME interesting experiments have been performed by MM. Krishaber and Dieulafoy, on the artificial production of tubercle in monkeys. Observations on these animals have a special interest on account of their susceptibility to the disease, and on account of their position, in relation to man, in the animal kingdom. Monkeys are commonly believed to be extremely liable to tubercle; it has even been asserted that all monkeys in confinement die, sooner or later, of this malady. If so, they would be hardly fit subjects for experiment. Krishaber and Dieulafoy have, however, ascertained that this is not correct. They have obtained information on this point from the directors of all the principal zoological gardens in Europe. It would seem that about twenty-two per cent. die tuberculous, which is nearly the same as the percentage of deaths from the disease in man. Sixteen monkeys were subjected to inoculation, and twenty-four others were kept under the same conditions for the purpose of comparison. Those experimented upon were divided into four groups, and each group was inoculated with a different pathological product: grey granulations, pulmonary tissue infiltrated with grey tubercle, and caseous substance. Of the three monkeys constituting the first group, one died with cheesy glands, the other two survived, and one of them resisted two other inoculations. The thirteen other monkeys were divided into three groups, and, with the exception of two which perished accidentally soon after the inoculation, all died from Tuberculosis after an interval which varied from thirty-four to 218 days. The most rapid cases were those of the monkeys inoculated with grey granulations. Of four animals inoculated together, three died after the same interval. If the two monkeys which died from an accident are left out of calculation, eighty-six per cent. of those which were inoculated died tuberculous, while of the twenty-four other monkeys kept for the same time under the same conditions, the deaths from this cause were only five, or 2·1 per cent. The conclusions drawn from these investigations are—(1) That human tubercle, when inoculated, kills a monkey in nine out of ten cases, with lesions analogous to those met with in man. (2) The effect of the inoculation varies according to the substance employed; the grey granulation is most, and the pulmonary parenchyma least, infectious. (3) Two monkeys only were found to be insusceptible.—*Lancet.*

THE PHYSIOLOGICAL IMPORTANCE OF THE CÆCUM.

DR. ELLENBERGER gives an elaborate paper in the "Archiv fur Wissenschafsliche und practische Thierhielkunde" (B. V. Heft. 6) relating to this subject. He first draws our attention to the opinions of various writers, showing that most of the old authors considered the cæcum to serve as a second stomach, from the fact that they generally found its contents acid. Later, it was found that its secretion resembled that of the small intestines, and was alkaline; therefore, although the cæcum, from its shape and position, was well adapted for retaining the food, still the theory of its capability for digestion was doubted, and according as authors found its contents acid

or alkaline, so they ascribed its function as similar to the stomach or intestines.

Some have asserted that the process of digestion is at an end after the ingesta has passed through the small intestines; others that absorption may still go on in the colon; but they usually restrict this to the fact that the matters were rendered soluble in the small intestines, although they passed into the large before they became absorbed.

Dr. Ellenberger noticed:

1. That all animals which feed upon indigestible food (that containing an excess of cellulose) had a well developed cæcum, or something analogous to it.

2. That the cæcum of the horse, from its size and situation, was well adapted to retain a large quantity of chyme.

3. That the food must necessarily remain in it for some time, and from its vermicular movements undergo a certain amount of churning, etc.

4. The large extent of secreting surface, and the amount of fluid always found in the cæcum served for macerating the food.

5. That more undigested food is found in the ileum than in the colon. That if these are found correct, it remains to be seen whether

6. The histological construction and condition of its contents go to prove that it is such a good absorption organ as its shape, position, etc., represent.

When comparing the anatomy of the alimentary tract of various animals, Dr. Ellenberger found that those animals, such as carnivora, omnivora, etc., living on easily digestible food, have comparatively large stomachs and small cæcums, while most herbivorous animals either have sacs anterior to the stomach (the compound stomach of ruminants), or other contrivance in the digestive tract, such as large cæcums, etc., to aid the process of digestion.

In the Macroscopical Anatomy, he says the cæcum of the horse develops from the end of the ileum just as the stomach does from the œsophagus. At the fifth week of fœtal life, a pouch is seen to develop in a posterior direction. At about the eleventh week the blind extremity turns itself forwards. The part farthest from the ileum grows faster than that in apposition with it, and in this way the head of the cæcum (Saccus ventriculiformis) is formed. The four ligamentous bands (Ligamenta cæci) grow slowly in length, but faster in width; whereas the walls of the cæcum itself grow quickly, and thus form the pouches (Cælulæ cæci). About the sixteenth week of fœtal life the cæcum is fully developed in shape and position, but goes on increasing in size with the growth of the fœtus. He further compares the head of the cæcum to the stomach. Thus the dorso-laterally placed convexity (Curvatura magna) may be compared with the large curvature of the stomach, and the ventro-medial curvature (Curvatura parva) with the two openings—one from the ileum, the other into the colon—to the small curvature of the stomach with the œsophageal and pyloric openings.

The walls consist of serous, muscular, and mucous coats. The serous coat is wanting in places, but the muscular is general, and consists of an outer longitudinal coat well developed on the ligamentous bands, and an inner circular running from one band to another, it being very thin directly on the bands. The muscular coat takes a circular direction round the ostium cæco-colicum, and forms a kind of orbicularis (Sphincter cæci), but there is no such arrangement around the ostium ileo-cæcale; the fibres here approach in all directions, and become attached to a strong ring of connective tissue, so that when the contraction of the muscle occurs it closes the opening.

The mucous coat lies loosely and in folds upon the muscular. The largest

folds radiate in all directions from the small curvature. In the body of the cæcum the folds extend from one ligamentous band to another. At the apex there are no folds; the mucous coat here lies immediately upon the muscular. The same is the case on the longitudinal bands and the small curvature. At the ostium cæco-colicum this coat forms large circular folds, due to an increased development of the submucosa; especially is this the case at the anterior (proximal) border of the opening, forming a semi-lunar fold, which projects against the lumen of the colon, and is analogous to the valvula cæco-colica. The fold is, however, so mobile and changeable, that it cannot be said to be a true valve. The ostium ileo-cæcale very much resembles the orificium uteri externum. He was not able to find (by freezing the intestine) a valve in the full-developed animal, although there is, certainly, in the foal a fixed semi-lunar fold of mucosa, which closes the lumen of the ileum, and may be called a valve. In aged animals the muscular ileum projects with its longitudinal folds of mucous membrane into the cæcum.

The blood-vessels, nerves, and lymphatics travel along the two ligamenta mesenterica. From the small curvature of the head they comport themselves similar to those (Arteria coronaria ventriculi sinistra) of the stomach.

The position of the cæcum is obliquely from the right lumbar region postero-superiorly to the ensiform cartilage antero-inferiorly. Both the inlet and outlet are superiorly placed quite near to each other, although the former is somewhat lower than the latter.

From this elementary anatomy we learn that—

1. The cæcum presents a large surface in a small space.
2. Will contain a large quantity of food.
3. The food can remain a long time, and become energetically kneaded before it passes into the colon.

In describing the microscopical anatomy, he says it consists of—1, a Mucosa made up of three layers richly studded with glands; 2, two layers of muscular; and 3, the subserous and serous coat.

The mucous coat consists of a (1) *Propria mucosa*, varying in thickness at different parts of the cæcum 0·4—0·55 mm. at apex; 0·4—0·45 at body; and 0·35—0·4 at the base. 2. The *Muscularis mucosa* 0·04—0·07 mm. thick, and the sub-mucosa. The free surface is covered by a cone-shaped cylindrical epithelium, the base (or broad end) being towards the lumen of the intestine, and when taken from the cæcum of a foal they present a distinctly striated hyaline border (*Saum*). Between these cells there were some semi-lunar, as well as the so-called cup-shaped cells (*Beeherzellen*). This epithelium is placed upon the Propria mucosa proper, which is composed of a fine network of connective tissue, in which the glands, follicles, vessels, and nerves are imbedded. In it we also see connective-tissue corpuscles, leucocytes (*Wanderzellen*), etc., so that it very much resembles lymphatic structure in appearance. Here and there we found round or oval cellular bodies, very much resembling solitary lymph follicles. The follicular glands (Lieberkühn's) extend as unbranched cylinders from the surface of the intestine to the muscularis mucosa. They are 0·4—0·5 mm. long and 0·05—0·06 mm. broad superiorly, and 0·03—0·4 mm. broad inferiorly. They lie very close to each other. About 160-170 were found in a quarter of a millimetre, so that the cæcum contains about 270—300 millions of glands. Each gland is composed of the membrana propria and cylindrical epithelium, the nuclei of which are situated close to the base, and surrounded by granular protoplasm.

The *Muscularis mucosa* is composed of a continuous internal longitudinal and a broken-up external circular layer of non-striated muscular tissue.

The submucosa is composed of loose connective tissue and elastic fibres.

We also noticed here (as in the propria) connective tissue corpuscles, leucocytes and peculiar cell formations (resembling Waldeyer's *Plasmazellen*). These were found in the cæcum of horses, cattle, sheep, goats, pigs, dogs, monkeys, and rabbits. These formations seemed to have no membrane and possessed no fixed form. When isolated, they may be confounded with white-blood corpuscles, but may be distinguished from them by their large size, extremely refracting granular appearance, and large cyst-like nucleus. Dr. Ellenberger treated them with various reagents, and came to the conclusion that they were pyogenic formations of connective tissue.

The submucosa unites the mucosa to the muscular layer, which is composed of an internal circular and an external longitudinal layer, the latter being especially developed on the longitudinal bands.

The subserosa is relatively thick, and the serous coat presents the usual structure.

The blood-vessels pass through the muscular coat into the sub-mucous, and there break up into capillaries. Those supplying the mucosa pass through the muscularis mucosa, and form a fine network around the glands, so that each appears to be imbedded in a network of vessels. Directly beneath the epithelium the branches anastamose, and form a complete capillary net (Rete subepithal). The vessels supplying the muscular coat take the same course as the fibres.

The large valvular lymph-vessels lie in the submucosa, and generally accompany the blood-vessels. The mucous membrane has no lymphatic vessels, but only wall-less spaces. Dr. Ellenberger could not trace the lymphatics, as vessels, beyond the muscularis mucosa, for after his injection-fluids had passed this point they diffused into the meshes of the tissue. Therefore, he concluded, that the mucous membrane only contained wall-less lymph-spaces ; in fact, it is a sponge-like net-work through which the chyle can pass.

From this histological examination, it will be seen that the cæcum is especially favourable to secretion, as is seen from the large superficial glandular surface, and is not unfavourable to absorption, although it does not possess the papillæ, which, as we know, are the chief structures for this purpose in the small intestine.

Dr. Ellenberger then conducted numerous feeding experiments, with known materials, as to quantity and quality, and killed the horses at various times after the last meal, in order to prove, if possible, the part played by the cæcum in digestion. The results of these were, that the contents of the stomach were always acid. In the duodenum they were generally acid, especially at the commencement, sometimes neutral, and even slightly alkaline. The reaction of the contents of the jejunum depended upon the quantity and degree of the acid which passed from the stomach, as well as the rapidity with which the ingesta moved through the duodenum, and, finally, upon the quantity of the alkaline secretion poured into the duodenum. As a rule, they were alkaline, as were the contents of the ileum. The contents of the cæcum were always alkaline, those of the colon varied, the contents of the lowermost portion (nearest the cæcum) were usually alkaline, whilst those of the uppermost portion (nearest the rectum) were acid, as were the contents of the rectum. The changeable reactions are, no doubt, dependent upon the decomposition of the various substances thus : Decomposition of albuminous bodies are alkaline (ammonia), that of fats acid CO_2, and according to the prevalence of one or the other, so is its reaction.

He also examined horses which had died from various diseases, and as far as his experiments went he found there were two principal abnormal reactions—viz., 1. Alkaline reaction of the contents of the stomach, found in horses dying from Pneumonia, Septicæmia, and hepatic hæmorrhage.

2. Acid reaction of the contents of the intestines in cases of Volvulus, intestinal Catarrh, stoppage from collections of fæcal matter (Fæcalstasis). In all cases the contents of the cæcum were neutral, except in those of Volvulus and intestinal Catarrh. It is well known that in the condition of Fever, the acid reaction of the stomach decreases; therefore, in diseases accompanied with Fever and Septicæmia the formation of acid in the stomach decreases, hence the above results. It is also known that the same results, even to a greater extent, occur in cases of acute Anæmia; hence the result in hepatic hæmorrhage.

The acid reaction of the contents of the intestines in Volvulus, intestinal Catarrh, etc., is not to be wondered at, since the chyme remains a long time in the canal and decomposition and fermentation processes set in.

In the *resumé* he says that the cæcum of the horse is far more important with regard to digestion, than is that usually ascribed to the colon. All herbivorous animals eat a large quantity of food which contains the easily digestible material (albumen and starch, etc.,) enclosed in an indigestible covering of cellulose, which must be dissolved before the nutritive portion is liberated to come in contact with the secretions of the alimentary canal. In order that this should be done completely, we find several processes, viz., 1, Mechanical mastication and friction; 2, Maceration in the various secretions. When either of these is imperfectly performed, some of the nutritive material passes through the canal undigested. Since the food of herbivorous animals contains a relatively large quantity of cellulose, on which the secretions have little action, a very small quantity could be digested without some additional means to prepare it, *i.e.*, change it to products which can become absorbed. In ruminants we find such an apparatus in the shape of three extra stomachs, and in birds the crop, etc., which not only serve to soften and triturate the cellulose, so as to set free the nutritive materials which it encloses, but also to change a great portion of the cellulose itself into a soluble material.

Since horses partake of a considerable quantity of cellulose, they must occasionally possess some arrangement, for this coarse digestion. We know the food passes(in solipeds) quickly through the small true digestive stomach, and we found this took place much quicker when fluids were given than when they were withheld. We also know that horses digest the greater part of their food and assimilate most of its nutritive constituents. And since the food passes so quickly through the anterior portion of the canal, there must be some organ where digestion can go on—and we see that horses possess a peculiarly-shaped and situated organ, the *cæcum*. Therefore we may, *a priori*, presume that this organ has some speciality for preparing cellulose for digestion, and may therefore be compared to the stomachs of ruminants and the crop of birds, etc.

The cæcum of the horse is about three times as large as the stomach; hence its capacity is much greater, both for containing the food and secreting a large quantity of fluid. The food enters the cæcum quicker (from the contraction of the strong muscular walls of the ileum) than it passes into the colon, for the cæcum is so situated that it is unfavourable for expelling its contents. Moreover, its walls are comparatively thin, and its contraction as a rule, weak, so that the food becomes churned up and mingled with the large quantity of secretion which is poured out from the numerous glands lining its surface, until it assumes the fluid condition, in which state the contents of the cæcum are usually found. In order to expel this fluid into the colon, strong contractions are requisite, and these only occur at intervals and when the cæcum is filled.

The fluid found in the cæcum is partly derived from the secretions poured into the small intestines—bile, pancreatic fluids, succus entericus, etc., as

well as the alkaline fluid secreted from cæcum itself, the secretions anterior to the small intestines, and the water taken by the animal. And we believe that the same digestive process goes on in the cæcum as in the small intestines, viz., starch is converted into sugar, albumen into peptones, and fat emulsified.

Dr. Ellenberger says the following are digested in the cæcum :—

1. All matters which have not been allowed sufficient time to undergo the digestive process of the gastric and pancreatic fluids, etc.

2. All those substances which are enclosed in a thick cellulose covering, which must become destroyed either by mechanical means or maceration.

3. All cellulose matters, etc., which are generally considered indigestible (and are very slightly digested by carnivorous animals), become digested by the complicated decomposition processes, churning, and maceration, they receive in the cæcum.

He thinks that the fermentation process is of great assistance to cellulose digestion. That this process does take place is proved by the products found, viz., lactic and butyric acids as fermentation products of carbohydrates; fatty acids from the decomposition of fat; leucin tyrosin, etc., as decomposition products of albuminous bodies.

He also thinks absorption must take place in the cæcum, judging from the ample arrangement of lymphatics.

In the summary of his investigations he says :—

1. There is in all animals, which live upon hard digestible food, special facilities for this purpose.

2. The horse belongs to this class, living as he does on food rich in cellulose.

3. In him we find no apparatus anterior to the stomach, and the food passes quickly through it.

4. We find, however, that the cæcum is extraordinarily developed.

5. This seems to answer all the purposes that are required.

(*a*) Its capacity is three times that of the stomach.

(*b*) It is so situated that the food must remain in it for some time, and become mechanically kneaded and moistened ; it is also kept at a certain temperature, so that the decomposition and maceration processes must take place.

(*c*) It has an exceedingly large secreting surface, and its contents are usually fluid.

6. The contents of the cæcum are always alkaline, and contain a number of infusoria.

7. We always find a large amount of gases.

8. Its anatomical structure points rather to a secreting than an absorbing function.

9. The cæcum contains more undigested material than the colon, and less than the ileum.

POPULAR NOTIONS WITH REGARD TO "ROARING."

THE following interesting article on "Roaring" appeared in a recent issue of the *Standard* newspaper :—

One of the favourite topics of conversation and dispute, especially during the Goodwood week, is the supposed degeneracy of the English Thoroughbred. Of the disputants, few probably reflect, even if they know, that the complaint which they either echo or ridicule, according to the side they take up, is at least as old as the commencement of the present century. Sam Chifney, the elder, in the book he published in 1795, found occasion to

allude to "the causes why the Turf horses degenerate," and to the "outcry" of "why are there so few good runners?" and he takes notice of the explanation which then, as now, was offered by the complainants: "Some say they think it is from running horses too young." With this opinion the "Father of Jockeys" did not agree; but he seemed to have no doubt about the fact that even in his day the Thoroughbreds did "degenerate in strength, speed, and beauty." Nevertheless, when he wrote, in 1795, such horses as Beningbrough and Hambletonian were just revealing themselves, and such steeds as Champion, "Waxy" Pope, Whalebone, sire of Sir Hercules, and others were "coming on." Why, one of the most virulent abusers of the modern Thoroughbred has declared that "the English race-horse was perhaps at his best" in the years between 1750 and 1815, which would omit the era of Flying Childers and Bonny Black, and would include the date of the horses whose degeneracy Chifney laments, and of several great horses that Chifney did not live to hear of. The truth is, that all such jeremiads and all such sweeping assertions must be taken with modifications and allowances, based upon our knowledge of the tendency displayed by certain persons, ever since the days of Nestor, to disparage whatever belongs to or is achieved by poor creatures, "such as mortals now are." It stands to reason, moreover, that when the number of horses in training increased to the vast proportions it has now assumed, there would be, on the one hand, fewer instances of a single horse, such as a Flying Childers, or an Eclipse, or a Highflyer, or other paragon, marking an epoch in the history of horseflesh, and, on the other hand, more instances of "weeds" or "wretches," whose multitude and infirmities would become all the more conspicuous from the more frequent opportunities for display, and from the strong light which would be thrown upon their deficiencies by the higher average of excellence. However that may be, there is no doubt that there is one infirmity which prevails among our Thoroughbreds of the present day to an almost alarming extent. That infirmity is "roaring."

Not a season passes but some promising animal, having accomplished wonders at two years of age, is good for nothing, or for nothing but short spins, at three, simply because it has "begun to make a noise," and goes on from bad to worse. Quite recently there was the collapse of Prince Charlie, the "King of the T.Y.C.," and Bal Gal; and yet our breeders persist in breeding from known "roarers." Cantinière, the dam of Bal Gal, was a notoriously bad case. Purchasers, whether in ignorance or not, will give as much as a thousand guineas for a "roarer." This looks as if either the complaint were considered of no great importance, or it were not known to be transmissible from sire or dam. But that the infirmity is generally fatal to a horse's career as a racer over any distance of ground is unquestionable, and that the progeny of a sire or a dam so affected run a very great risk of being similarly afflicted, is hardly less unquestionable. It would seem, then, that persons who deliberately breed from "roarers," whether on the sire's or the dam's side, cannot have at heart the improvement of the English Thoroughbred, and must be actuated by a simple desire to pocket the too many valuable stakes which may be picked up nowadays by unsound "flyers" in short races. On the other hand, it would be expecting a great deal, perhaps too much, to expect the owner of such a horse as Prince Charlie, or the possessor of such a mare as Cantinière, to put the animals beyond the possibility of transmitting their complaint as well as their extraordinary speed. Nay, it is just possible that a confirmed "roarer" may be able to stay; it is a turf tradition that "Shadow could stay any distance roaring like a bull;" but so exceptional a case can scarcely be considered a good reason for trying to perpetuate a class of Thoroughbreds whose performances, at the best, must be both painful to themselves and distressing to their

audience. Whether "roaring" can be cured or not is a question upon which there is no consensus of opinion. It is asserted that at the Cape of Good Hope there is no such thing as a "roarer;" and Brian Boru, said to have been a "bad roarer," when he was exported thither in 1863, is stated to have recovered soon after his arrival, and to have run well there. Another singular instance is that of Brigantine, one of the best of the "Buccaneerids," and it is vouched for by her own trainer. She began well as a two-year-old, but ran badly at the Newmarket July Meeting, immediately after which she was discovered to be "an undoubted roarer." By the end of the next spring the disease had "gradually diminished, and ultimately left her as sound as the day she was foaled," and certainly, the way in which she proceeded to win successively the Oaks and such long-distance races as the Ascot Gold Cup and the Hurstbourne Cup was not indicative of "roaring." Other examples of real or apparent recovery might be quoted; but sceptics shake the head and insinuate that some mistake must have been made, and that the animals were not true "roarers." A tradition which has found its way into the literature of the French Turf, claims the celebrated Eclipse himself as a member of "the band," and, if the claim were substantiated, something might no doubt be urged in favour of breeding "roarers."

What the complaint really is, where the actual seat of it should be sought, and from what causes it arises, seem never to have been clearly ascertained. The late Lord George Bentinck, who was not likely to leave so important and interesting a subject uninvestigated, is said to have handed over to Mr. Field, the most noted of veterinary surgeons, a certain mare, afflicted with "roaring," to be killed, dissected, and subjected to minute autopsy. The surgeon's report was that neither malformation nor disease could be detected in the organs of respiration, and that there was no discernible clue whatever to the mystery. The suddenness with which it comes on is one of its most remarkable characteristics; within a day or two it may be plainly declared, if not fully developed. The opponents of two-year-old racing are fond of tracing some connection between the complaint and the practice of running at a very early age; nor can it be denied that the infirmity has appeared in very many notable instances to have been contracted at the close of a distinguished two-year-old career. But it must be remembered that "roaring" is by no means confined to race-horses; and that hunters, among which there are few, if any, youngsters, have been frequently observed to become "roarers," if, after the hard work of the winter they exchange the hot stable for the cold grass. This gives some plausibility to the supposition that the complaint may be sometimes traced to want of caution in changing the conditions of a horse's life. Horses that have had inflammation of the lungs, or have suffered very much from strangles, are known to be particularly liable to the affection; and a French authority considers that damp climates have not a little to do with it, "since roarers are excessively common in Normandy, and very rare in the South." As for the remedies which have been tried for the complaint, the same French authority mentions one which may be regarded as worse than the disease. It consists in making an incision in the afflicted animal's neck, and inserting a silver tube, called a "rossignol," for the conveyance of air to the lungs. The instrument has been used occasionally in this country, and there may be persons who can testify to the effect produced. But, according to the French evidence, there is no reason to suppose that the animal is much relieved. On the other hand, there is some ground for concluding that the rider and the audience in general, may suffer greater torture, "*car l'air fait un bruit infernal en entrant et sortant de cette mécanique*," and there is no need to make more "infernal" by artificial means the naturally diabolical noise which such a "roarer," for example, as old Jack o' Lantern or his like would produce with

out the help of artificial tubes. As regards the sort of horses that are disposed to "roar," it has been recorded by a man of experience that large horses are more liable than small to contract the complaint; but it may be that the saying was suggested by recent impressions due to the size of Prince Charlie. It will be news to many readers to be told that "we certainly have fewer roarers amongst our race-horses than formerly;" yet that comforting assurance was given more than a year ago, and it may not now be applicable. At any rate, we have quite enough of "roarers," and the number is not likely to diminish as long as they include performers so brilliant, that it would require superhuman self-denial not to breed from them.

THE ROYAL VETERINARY COLLEGE.

WITHIN the past twelve months great changes have been taking place in this school, so far as the teaching staff are concerned, and the old traditions have been abolished to give place to a new *régime*. The appointment of Mr. Robertson—a student of a Northern school—to a professorship was the first breach, and now his accession to the Principalship is the crowning stone in the modernised institution. It has been the invariable custom to allow the Principal of the School to die in harness, but this is changed—no doubt to the benefit of the students, and the comfort and peacefulness of the ex-Principal, who can now end his days in that calm repose which a well-earned retirement deserves, instead of lagging on the stage a tired and worn-out veteran. Of Professor Robertson's fitness for the responsible position in which he is now placed, no one who knows him can entertain a doubt; and that the school will derive an accession of strength and vitality from the transfusion of northern blood there can be as little doubt. In-and-in breeding of teachers for any length of time, so far as experience in this country goes, is as much to be deprecated as the same practice with regard to animals, and a deviation is as much to be commended in one as the other. While we are certain that Professor Robertson will realise all the anticipations which have been formed with regard to his career as a teacher, we hope that his predecessor may enjoy to the full that retirement which the Governors of the School have allowed him to claim.

Reviews.

AN ESSAY ON THE BREEDING AND MANAGEMENT OF CART HORSES. By R. S. REYNOLDS, M.R.C.V.S., Liverpool.

This essay, reprinted from the second volume of "The English Cart Horse Stud Book," for the author, contains pretty well everything relating to cart horses in the way of breeding and management, and is written in such a concise manner, and in such simple language, that those for whom it is intended should have no difficulty whatever in perfectly understanding it throughout, while to the veterinary surgeon it contains much that is interesting and worthy of attention. Considering the important part the cart horse is made to assume, and the great amount of attention paid to breeding and managing him, as well as the greatly enhanced value he now commands in the market, those most concerned in his welfare cannot know too much about him and his requirements.

The amount of knowledge Mr. Reynolds communicates in his essay, published at half-a-crown, if properly utilised, will tend not only to improve the breeding of this most useful animal, but greatly add to his usefulness and comfort. For this reason the essay is to be recommended to all who are concerned in cart horses.

HORSES AND STABLES. 2nd Edition. By Major-General Sir F. FITZWYGRAM, Bart. (London: Longman, Green and Co.)

A second edition of General Fitzwygram's book having been called for, has given the gallant author an opportunity of adding somewhat largely to the woodcuts, making corrections, and increasing the letterpress to a certain extent. The character and scope of the book is so thoroughly known as well adapted for amateurs, that we have little to note concerning it which would interest the majority of our readers. Some of the chapters—those on stable management, forage, and feeding—are worthy the notice of the younger members of the profession. The references to transmissible diseases, and especially to their causation and prevention, we cannot quite understand; but this may be owing to our lack of perception. Considering the large amount of matter, and the number of cuts, the book is remarkably cheap.

VETERINARY NOTES FOR HORSE-OWNERS. 2nd Edition. By Captain M. H. HAYES. (London: W. Thacker and Co.)

Captain Hayes' Veterinary Notes was an excellent amateur's handbook in the first edition, and in the second it is made still more useful and complete. Though we are entirely opposed to amateur doctoring, as in the majority of cases it is not only futile, but dangerous, inasmuch as the practice of medicine and surgery cannot be taught by books, yet there are occasions when a horseman may, through the absence of a veterinary surgeon, be driven to his wit's end, and when something should be done to save a horse or relieve it from pain. If books can enlighten to any extent as to what should be done in these emergencies, then their utility must be acknowledged, and they have their place. The descriptions and directions in these Notes are as clear and plain as it is possible to make them, and if it be at all likely that the necessary knowledge as to diagnosing and treating diseases can be imparted in this way, we feel sure that they will supply it.

A VETERINARY MANUAL FOR THE USE OF SALOOTRIES AND NATIVE HORSE-OWNERS IN INDIA. By J. J. MEYRICK, M.R.C.V.S., Army Veterinary Inspector.

This is a most praiseworthy and apparently very successful attempt to supply the native farriers and horse-owners of India with a similar, though more detailed, work to that of Captain Hayes, but printed in Hindustani. The labour entailed by such a task must have been very heavy, and Mr. Meyrick must be heartily congratulated, not only on the courage he displayed in commencing it, but also on the manner in which he has carried it out. As has just been remarked with regard to the preceding Notes by Captain Hayes, so far as veterinary knowledge can be conveyed to amateurs by books, the present manual must effect

a large amount of good. Veterinary surgeons in India are lamentably few in number, and likely to be fewer unless some change takes place; consequently, the loss from preventable diseases in that country is alone estimated to exceed six millions of pounds every year. Nothing can be more disgraceful than the neglect which allows such waste, unless it be the treatment to which the Indian Government subjects the officers of the Veterinary Department, nearly every one of whom is disgusted with service in that part of our Empire. Mr. Meyrick has done his best to diminish the loss, suffering, and cruelty prevailing in Hindustan; but so far as recognition is concerned for what would have doubtless obtained for him honourable distinction had he been serving in a foreign army, he is more likely to be ignored, or snubbed and insulted through having his book submitted by the Government of India to some impertinent and ignorant doctor, or still more ignorant and presumptuous civilian hanger-on. However this may be, the author has undoubtedly the satisfaction of having done a good work—probably the first of its kind. He is to be complimented no less on the skill with which he has arranged and dealt with the matter, than on his knowledge of Hindustani.

Proceedings of Veterinary Medical Societies, &c.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE forty-third meeting of this association was held in the Town Hall, Tamworth, on August 12th.

Harry Olver, Esq., F.R.C.V.S., President, in the chair. Present: Messrs. T. Greaves, Manchester; F. Blakeway (treasurer), Stourbridge; H. Cartwright, Wolverhampton; F. W. Wragg, London; Captain Russell, V.P., Grantham; J. Wiggins, V.P., Market Harboro'; Faulkener, Manchester; H. Perrins, Worcester; E. Meek, Walsall; W. Dale, Coventry; A. Over, Rugby; O. Hills, Leamington; E. Hodgkinson, Uttoxeter; W. C. Ison, Atherstone; R. Cole, Hinckley; C. Reynolds, Mansfield; G. Smith, Tunstall; W. Carless, Stafford; R. Trigger, Newcastle-under-Lyne; G. Rossell, H. Blunt, Edward Stanley, Warwick (Secretary). As visitors, on the invitation of the President—A. Taylor, Manchester; Drs. Fausset, Campbell, and Delaney—all of Tamworth; and J. Allman, London.

Letters were received from the following gentlemen regretting their inability to attend the meeting: Professor Robertson, London; Professors Walley and Williams, Edinburgh; Messrs W. C. Barling, L. Tipper, H. Goule, R. Cartwright, W. Saunders, A. Hodgkins, T. Merrick, E. Beddard, H. Collett, G. Pyatt, G. Fleming, and H. M. Stanley, Vice-President.

The Secretary said he had some correspondence with the Lancashire Veterinary Medical Association, and he had issued over 400 circulars soliciting votes for members of Council; the result being the return of Mr. Blakeway, their selected candidate.

Acting as local secretary for the British National Veterinary Congress, which they all knew had been carried to a highly successful issue through the undaunted perseverance of Mr. H. Steele, he was very pleased to thank the members of this association for the liberal response they had made to the circulars calling their attention to the Congress, and which had enabled him

to send Mr. Banham, the treasurer, the sum of £21 9s. 6d., the balance of twenty-one guinea subscriptions, less expenses.

The President and he had considerable correspondence with Mr. Geo. Fleming (who was working day and night) to assist in passing the Veterinary Surgeons Bill, and it had been necessary to memorialise both Houses of Parliament, at very short notice, on account of opposition to the Bill; and although it had passed the Lords, and he believed the second reading in the House of Commons, he feared it was *in statu quo*, owing to the unfortunate and ill-timed opposition of two or three members of the profession.

The President then delivered his inaugural address, which was as follows:—

Gentlemen,—My first duty in assuming the presidential chair of this association, is to thank you for electing me to so dignified a position, and to assure you that I shall spare no efforts in furthering alike the interests of this association and of the honourable profession to which we belong.

A comparatively young member, both of the association and the profession, I cannot hope to preside over you with the same ability and tact as my predecessors, and feel that you have given me a hard task in asking me to follow so distinguished and able a man as my immediate predecessor (Professor Pritchard). You, too, must know this. I therefore crave your assistance and support, not only by attending the meetings, but by joining in the discussion of subjects brought forward; so that by a candid and outspoken expression of opinion, we may obtain the greatest possible amount of good ourselves, and also do something for the benefit of our fellow-men.

The Midland Counties Veterinary Medical Association is as yet in its infancy, and it is not difficult to trace its progress, and to mark its failures and successes. Since the first meeting held at Derby in 1866, some of the most eminent men, not only of our own, but of the sister profession of human medicine, have addressed it, either by delivering lectures or reading papers at its meetings. For a time everything went well. The members were enthusiastic, the meetings well attended, and much mutual benefit derived. By degrees this happy state of affairs gave way to apathy and neglect, until it was projected to abandon it altogether. This seemed to give us the necessary stimulus; new members were enrolled; good meetings became the rule; visitors were invited to attend, and so learnt its value; and we now stand in the year of grace 1881, numerically and financially stronger than we have before been, holding an established position which, with your assistance, I trust in the ensuing year to more than maintain, and so promote the interest and well-being of the profession generally, as well as to harmonise and produce greater unity amongst its members.

Turning from our own association to the wider field of the veterinary profession, we cannot but feel how considerable has been the progress made in the past few years. It is now recognised as one of the institutions of the country, and justly so; for in its hands is placed, to a great extent, one of the principal sources of wealth of the nation, viz., its domestic animals. It seems passing strange that a country so noted for the quality and value of its live stock, should, I believe, be the only one that has not lent some state aid to a profession, the business of whose members is not only to cure the maladies to which those animals are subject, or to alleviate pain, but by scientific research, indomitable perseverance and close study to find out the cause, and so be able to advise as to the best means of prevention, of the many epizoötic and enzoötic diseases, which produce such ravages amongst our flocks and herds, as well as the equine species.

To the stern integrity, tact, and talent of our predecessors is our past progress due. Then let us with daily increasing advantages, help in raising it to its proper and natural position, side by side with the older profession of

human medicine. In my opinion, a gigantic stride in this direction took place last month, by the meeting of the first British National Veterinary Congress in London, the promoters of which must be congratulated on the unqualified success which resulted from their perseverance and pluck in carrying to a successful issue such a great undertaking. The large number of members of the profession who attended its meetings, from all parts of Great Britain and Ireland, as well as our Colonies, was sufficient evidence of the interest taken by the profession in the subjects brought forward for discussion; and the manner in which those discussions was kept up was a further proof of the utility, nay, I would say the necessity, of such gatherings for a body of professional men, not only to discuss matters of semi-private professional interest, but to step into the wider field of what may be termed Veterinary Politics, as affecting our *status* as a body, our position before the public, and also of the members of the Army Veterinary Department, whose untiring efforts and gallantry in the field have so often been praised and held up to honour by commanding officers, and as persistently disregarded by the higher officials at home. But it also, more than this, brings us as a body (through the press) before the general public; it brings us, too, in immediate contact with the members of other learned professions, so that by the mutual interchange of thoughts and opinions, general benefit should be derived. Especially is this so with the medical profession, many eminent members of which body I was pleased to see present, and to hear them taking their part in the discussions—more particularly on that subject so interesting to both professions, and so important to the general public, viz., "The influence of disease of the lower animals on the health of man," so ably introduced by Professor Robertson. Here is material enough for both human and veterinary scientists to work upon for almost all time; and still it has as yet scarcely entered upon its initiatory stage. This subject cannot be fully entered into without drawing largely on Veterinary Pathology, and sooner or later it must be recognised as an all-important section of social science, generally known as public health. This, with other subjects, such as the transmissibility of disease from man to animals and *vice versâ*, the effect on the human frame of taking disease germs, parasites, etc., in animal food, the ingestion of the flesh of animals that have died or been slaughtered whilst suffering from anthracoid or other so-called blood diseases, are matters of paramount and public importance; and this importance may be better made known through the deliberations in congress of a body of scientific men embracing both professions, than by any other means. And let us hope that it may result in proving to the Government and to the public, the necessity for establishing an Institution, on the lines of the Brown Institution, for the purpose of investigations in comparative pathology, and studying and experimenting upon and into the cause, history, and effect of the diseases more especially affecting the animal world, which are so intimately connected with and have a direct bearing on public health.

Another very important subject as affecting our domestic animals, and also, I fear, the pockets of the agricultural community, and thereby causing a national loss, was introduced by Captain Russell, F.R.C.V.S., in his "Suggestions for effective legislation for the prevention of Contagious Diseases in Animals." How ineffective the Contagious Diseases Animals Act of 1878 is, we most of us have too sad experience; but I do not myself so much blame the Act, which I think a fairly good one, as the piecemeal way in which it is worked; when, as is the case in some counties, men totally unacquainted with the rudiments of science or of the diseases of animals, are appointed to carry out this Act, probably with the advice of a chief constable at head-quarters, we cannot wonder at its comparative failure, and that those who have to suffer complain of the restrictions to which they are

subjected for apparently no good purpose. To render the Act effective it must be applied in all counties alike; only duly qualified veterinary surgeons should be appointed as inspectors, and they should have the assistance and advice of sub-committees of practical farmers—one in almost every parish—with an executive committee at the head of affairs. With the appointment of such inspectors, and the assistance of such committees, larger discretionary powers should be given, as all of us who act as inspectors must feel that the special circumstances of some cases require different restrictions and methods to others. Police officers should assist the inspector when necessary, and the question of slaughter in some diseases, especially "Swine Fever" and "Pleuro-pneumonia Epizoötica," should, with general instructions, be left in the hands of the local committee, with the advice of the inspector. As an instance of the bad working of the Act on the county system, the hall in which we now sit is at the junction of two counties: on one side is an infected area; it prohibits the removal of any stock from the large markets into the county—in fact, takes every precaution to prevent the further introduction or spread of the disease (Foot and Mouth). On the other side, with police for inspectors, no precautions are taken; open markets and fairs are held, and all stock may be moved without restriction. With such a state of affairs no Act of Parliament will stamp out Contagious Diseases.

One other subject brought before the Congress, viz., "Cruelty to Animals," appears to me particularly worthy of our attention. The time was when practitioners of the veterinary art were looked upon as the perpetrators of all kinds of cruelty on the subjects which should be the principal object of their care. No doubt, in the days when quackery was rampant, and the so-called heroic style of treatment was the fashion, the charge was too true. Afterwards, with the cry against vivisection, we were numbered (especially the teaching colleges) amongst the guilty ones. This charge against either teachers, practitioners, or students in this country was without foundation, which has since been acknowledged. After such charges, it was refreshing at the Congress to see the representative of "The Society for the Prevention of Cruelty to Animals" standing up and thanking the members of our profession for their assistance to his society in such a good cause, and expressing his opinion that into the hands of the veterinary profession was the happiness and comfort of our domestic animals to a great extent placed. I feel sure that we shall accept this responsibility, and spare no efforts in thus furthering the cause of humanity.

The first "British National Veterinary Congress" will in time to come, no doubt, be looked upon as one of the landmarks of the year 1881; but we had hoped not the only one—the foresight and perseverance of he who may fitly be termed the "leader of the profession," the President of the Royal College of Veterinary Surgeons, George Fleming, had formulated for us a "Veterinary Surgeons Bill," which aimed at giving us the exclusive title of Veterinary Surgeon. As was expected, this was strongly opposed by the unqualified men, and in the House of Lords much had to be conceded to them—it must be admitted much more than we liked—practically making the Bill of little or no value to the present generation. At any rate, it acknowledged our right to the title, recognised our position, and in the future placed the graduates of our colleges on an equal footing with other learned professions. This being the case, the Bill having passed the House of Lords, and the opposition being silenced, we had hoped to have added this to the triumphs of the year, by seeing it passed into law during the present Session of Parliament. But alas! our boasted unity, now that the graduates of the Highland and Agricultural Society have been admitted into our sanctum, appears to be only a myth; for we hear of disunion within our ranks, and

opposition from a few members of our own body; so that we now have to fear that the half-loaf which was almost within our grasp will be withheld from us. Let us hope not.

The education and training of the veterinary student is a subject which has caused a great amount of interest of late; and, as the adjourned discussion on Mr. Greaves' paper at our last meeting takes place to-day, I perhaps cannot better conclude this address than by giving my opinion on the subject-matter of the essay, and so open the discussion. I am in the better position for doing this, inasmuch as my opinions in some respects are at variance with those of Mr. Greaves. First, as to education. I entirely differ from those who think that high classical attainments, with University or other degrees, render a man less able or willing to practise the veterinary art, on the grounds that with such teaching he would be above performing many operations which would necessitate his soiling his fingers, and maybe his clothes. On the contrary, I contend that a man with such an education would hold broader views, and feel that honest labour is no disgrace, and that he would be failing in his duty to his client, patient, and profession if he did not in the minutest detail carry out every requirement of the case he had in hand. I am a great advocate for higher education, for I feel that to the want of it is due the non-success of many graduates of the Royal College of Veterinary Surgeons, and the want of appreciation by the public of our profession as a scientific body. Happily, great improvement has taken place in this respect of late years, and I hope it will continue.

Mr. Greaves says, "The apprenticeship system is peculiarly, if not essentially, necessary in the veterinary profession." I would ask how much does the pupil learn in the one year prescribed as necessary by the Council as an apprentice to a veterinary surgeon? I think we should most of us say, to be fairly expert in the use of the pestle and mortar, and, if his master has a forge, to know something of the art of shoeing. Unfortunately for the pupil, I fear there are but few practitioners who take the stereotyped interest in their charge. Either he is a very busy man with no time to spare, or his practice is limited. I think it is unfair to treat all intending students alike. A farmer's son, for instance, is in a very different position to one coming from behind the desk or counter. I hold that the first essential to the detection and treatment of disease is a perfect knowledge of the animal in health. This really practical knowledge is not gained with the majority of veterinary practitioners.

I should prefer the youth who had spent his life amongst stock to the one who had been dispensing for a year. What better pupilage could one have than on a farm? There he would know every habit of the animals in health, would be able to ride and drive, pick up a horse's foot, put on or take off a shoe, give a bolus or drink, be experienced in lameness, and many of the ailments to which animals are subject, know how to apply most external applications, be a practised obstetrist, an experienced castrator, be able to bleed; in fact, perform most simple operations. With his college tuition, and some practice between the sessions, such a man should be qualified to perform the ordinary duties of his calling. I admit that a pupilage would assist him still further; but is it fair that he should be placed on the same footing as a clerk, and be compelled to go to the extra expense which an apprenticeship incurs? For these reasons I would prefer that each student be submitted to an examination before entering on his college career, as a test of his knowledge of domestic animals in health, their habits and peculiarities, and the rudiments of veterinary surgery.

Whatever may be our individual opinions on this and kindred subjects as affecting our profession, I personally am satisfied to leave them to the collective wisdom of the Council of the Royal College of Veterinary

Surgeons, of which body Mr. Greaves is so indefatigable and distinguished a member. We have much to thank them for, and to congratulate ourselves on, in looking at the great progress made in the last few years. We must still keep pace with the times, and the discussions which take place at these meetings must greatly strengthen the hands of the Council as to the opinions held by the rank and file of the profession. Much as they have done and still are doing to elevate and improve our calling, I feel that we must still say with Goldsmith—

> "How small of all that human hearts endure,
> That part which laws or kings can cause or cure;
> Still to ourselves in every place consigned,
> Our own felicity we make or find."

Since our last meeting at Leicester, the Veterinary Surgeons Bill has, as you know, been making progress through the Houses of Parliament. At the call of Mr. Fleming, your secretary (Mr. Stanley) and myself have drawn up and presented, at a day's notice, petitions to both Houses in favour of the Bill, and have signed them on behalf of the Association. There was no time on either occasion to call a special meeting; so that I trust our action in this matter will meet with your approval.

Mr. Stanley, too, has taken an active part as local secretary to the Congress, and I am pleased to be able to report that the Midland Counties sent a goodly number of subscriptions, as well as attendants at its meetings.

I hope that these disjointed remarks will be of sufficient interest to cause a lively discussion. I thank you for your attendance here to-day, as I feel that you are doing me especial honour in visiting the town of my adoption, and I trust that this may be the beginning of another prosperous year for the Midland Counties Veterinary Association.

Mr. ALLMAN said he thought the President's address a very good one, and would compare favourably with those of other learned associations, and he congratulated him upon it. (Applause.)

The PRESIDENT then called on Mr. E. Stanley to begin the discussion on Mr. Greaves' paper on the Penal Clause and Pupilage or Apprenticeship, read before them at its last meeting.

Mr. STANLEY said: I am in favour of Mr. Greaves' view of these subjects. We have a right to claim Penal Protection, or of what use is it spending time and money to obtain our title? We see around us uneducated men living as farriers, because they have practical tact in their business, learnt only in the hard school of experience, and too often erroneously learned from want of science as schoolmaster. Yet the public employ them, and are willing to do so. If we want an assistant we ask, "Where have you acquired your experience?" and judge accordingly whether he is likely to be of use to us or not. If out of good nature we take a newly-qualified man, who has never seen practice, and watch the successive blunders he commits, we wonder how he gained the diploma of the Royal College of Veterinary Surgeons. Hence the importance of pupilage to gain practical tact, which must go hand in hand with science to make a successful practitioner. We should be fortunate indeed if we could get as a pupil such a farmer's son as described by our worthy President; he is nearly a farrier to begin with (hear, hear); he could not have given a better example in favour of a practical foundation to build upon. The public appreciate the practical man, but they fail to see the value of a scientific man without the practical knowledge of his business. There is a case in point now occupying the attention of the Government, namely, Cooper's Hill College, for the training of engineers, one of the most important scientific schools in the kingdom. It is about to undergo some important changes in its system, because its men, who are acknowledged to

receive a most complete scientific education, have failed in India, and why? Because they had not combined a practical knowledge with their scientific attainments. I hope the time is not far distant when the Government will take a similar interest in the veterinary schools.

Mr. Greaves gives the veterinary professors a deservedly hard hit for their opposition to apprenticeship before the student enters college. They of all men must know a veterinary surgeon cannot be made by books and lectures. If we can get Government aid, so that the salaries may tempt successful practitioners to become professors (instead of the present arrangement, which, to my mind, appears wrong, for the professors to be self-elected, and the student of to-day become a professor to-morrow, on a salary not equal to that of a practitioner's assistant), their views would change, to the benefit of the profession and the public. I hope the time will soon come when the professors will insist on the candidates for admission giving proof of having served a pupilage by practical tests (hear, hear), and I advocate a three years' apprenticeship; two before entering college, the remaining time to be completed between the sessions.

The examiners are mainly responsible for the practical knowledge of the student, and I hope we shall soon see that important Board composed only of veterinary surgeons (hear, hear)—men who have proved themselves, by their public career, qualified for so important a trust: and if they were elected every three or five years it would excite a spirit of emulation amongst practitioners to improve their scientific knowledge, which would tend to the advancement of the profession, and so keep pace with the sister sciences (hear, hear, and applause).

I feel personally indebted to Mr. Greaves for bringing the subject so prominently before our Association, and am very pleased to see, by the journals before the profession, that it will not be lost sight of; and must tend to promote the general good.

Mr. GREAVES said he had listened to the President's address with as much pleasure as to any address he had ever heard. His paper was before the profession, and he felt sure all had read it, and hoped all present would freely express their opinions on the subject of pupilage and education, and, before the meeting closed, vote for or against it.

Capt. RUSSELL said since he had been in practice he had found the great necessity for practical experience. They talked of putting down quacks, but how was it possible to do so when there were so many of those who had obtained the diploma of the College going about the country and practically knew nothing? They should get the College to consider the best time to acquire the practical knowledge, and to test the candidates before giving veterinary honours. If only one year of pupilage, he thought it would be best between the College courses. A three years' apprenticeship would be for the public good, and they would soon find out the "vets." who pushed their pupils forward, and so select them as teachers.

Mr. PERRINS agreed with Mr. Greaves that the practice of the art must be studied, and if the Veterinary Surgeons Bill passed, we should have to convince the public that we are practical, especially the young members, so that they may have confidence in themselves, and show manipulative dexterity amongst their patients. His previous knowledge of animals in a state of health he found greatly assisted him in following Prof. Simonds through his lectures when he was a student, and he was convinced a practical knowledge was most essential to raise the profession in the estimate of the public.

Mr. A. TAYLOR said he was decidedly of opinion that all intending veterinary surgeons should, prior to receiving a diploma at the hands of the examiners, be submitted to a much more severe practical examination than had hitherto been the case.

Mr. BLAKEWAY favoured a higher education; and he should like the matriculation examination much more severe than at present, and to be the same in all the schools. He had great pleasure, at the Council meeting, in voting for the one year's compulsory pupilage. He was thankful for small beginnings; he would have liked two or even three years better. It was impossible for the student to gain practical knowledge at the College, and it was not right for examiners to sign the certificate of a young man, and send him forth to the public to gain his practical knowledge at the expense of his patients and his clients. Practical knowledge must be learned by the aid of practical men, and the only practical way of getting it was by a system of pupilage. (Hear, hear, and applause.)

Mr. H. CARTWRIGHT said it was impossible for a young man to gain practical knowledge at the College, and it could only be done by two or three years' pupilage—one year was not sufficient.

Mr. WRAGG strongly upheld the penal Act, and took a very liberal view of the fifteenth clause of the Bill. He derided opposition to the Bill on the ground that it was advisable to admit even two thousand unqualified practitioners if, by so doing, we should exclude forty thousand in time to come. (Applause.)

Mr. TRIGGER agreed with Mr. Greaves. He said very many lamentable mistakes were made by men who had seen no practice, and that an examination to test practical attainments was advisable before pupils entered a college. He strongly supported the three years' system of pupilage.

Mr. W. CARLESS strongly advocated three years' pupilage.

Mr. SMITH said, if the qualified men wished to put down quacks, they must show the public that they can do better than these. (Hear, hear.)

Mr. ISON advocated nothing less than three years' apprenticeship, and was in favour of the 15th Clause in the Bill, and warmly supported the measure.

Mr. FAULKNER advised pupilage before college. The practitioner, in his own interest, was sure to watch over him and correct mistakes, and so insure his gaining practical knowledge.

The PRESIDENT replied to the discussion. He thought practical knowledge was necessary for the student; he would not limit the means of acquiring that knowledge. Let the examiners prove that they had it, then practically deficient men could not enter the profession.

Mr. GREAVES said every speaker had supported his views as to pupilage education, and he found the weight of agreement was in favour of the practical instruction of the student before he went to college. He thought a registration fee of five guineas sufficient, as there were many men now doing a little doctoring who would not care to have their attainments or characters inquired into; and if the Bill now before Parliament was passed, he believed that in 1883 there would be no quacks left in the field. He thought it a most lamentable thing for any one to oppose the Bill. He was sorry to say petitions against it had been sent to the Government by men who ought to have an equal interest in its success.

A vote was then taken at the request of Mr. Greaves, and all the members present were in favour of the pupilage or apprenticeship system outlined by him in his paper.

Mr. ALLMAN exhibited and explained his Nasal Insufflator for curing diseases, such as Catarrh, Nasal Gleet, etc., especially advocating the value of Iodoform Co. Dr. Campbell had found it a wonderful remedy for Ulcers, especially in the human nasal cavities; it required diluting with starch, as its first action was very painful.

Captain RUSSELL suggested improvements in the shape of the insufflator, and spoke of the value of iodoform in sluggish ulcers.

The PRESIDENT announced, as proposed by Mr. E. STANLEY and seconded by Mr. CARTWRIGHT, that the next meeting would be held in Birmingham, and that Mr. Fleming, President of the Royal College of Veterinary Surgeons, had promised a paper on "Laryngisimus paralytica (Roaring)."

On the motion of the PRESIDENT, seconded by Mr. CARTWRIGHT, Mr. Greaves was accorded a very warm vote of thanks for his valuable paper.

On the motion of Mr. GREAVES, seconded by Mr. BLAKEWAY, the President was thanked for his able address and the admirable manner in which he had conducted the meeting.

The President exhibited an extraordinary specimen of Hydrocephalus.

EDWARD STANLEY, F.R.C.V.S., *Secretary.*

LIVERPOOL VETERINARY MEDICAL ASSOCIATION.

THE sixty-eighth quarterly meeting of this association was held at the Medical Institute, Hope Street, on Monday evening, August 15th, 1881, the President, C. W. Elam, Esq., in the chair. There were present, Professors Lewis, Edinburgh, and H. Hill, Wolverhampton; Messrs. Reynolds, Morgan, Welsby, junr, Jackson, Hobbs, Pilkington, Bell, Moore, Kitchin, Bain, Harrison, Morris, Donald, and the Secretary, of Liverpool; Messrs. P. Taylor, W. A. Taylor, Locke, A. Lawson, Hopkin, Dacre, Faulkner, Greaves, and Wolstenholme, of Manchester; Barnes, Malpas; N. Barron, Cheshire; A. H. Darwell, Northwich; Woods, Wigan; Blakeway, Stourbridge; Roberts, Oswestry; R. C. Edwards, Chester; Lyman, Boston, U.S.A., and several other gentlemen whose names did not transpire. Letters regretting their inability to attend were received from Professor Walley, Messrs. G. Fleming, T. D. Broad, L. Butters, S. Buckley. G. Cave, W. Carless, W. A. Cartwright, B. Cartledge, J. Carter, W. Dobie, B. Duff, J. Ellis, J. Freeman, J. H. Ferguson, J. Kenny, J. Leather, W. K. Lewis, J. E. Lloyd, J. Lawson, J. Litt, J. Moore, J. S. Menzies, C. Middlehurst, T. Procter, A. Prescot, J. Storrar, T. Stone, Tom Taylor, and C. Stephenson.

D. Webster, of Ormskirk, and A. Bain, of Liverpool, were unanimously elected members of this association. Mr. R. S. Reynolds nominated W. A. Taylor, of Manchester, for election as a member of the association.

Professor AXE then delivered a lecture on Cerebro-Spinal Meningitis, which was very attentively listened to. He described it as a disease which had recently appeared in this country, the first cases coming under his notice in April last in a stud of horses in Essex, and a subsequent outbreak in a stock of horses in London. He dealt at some length with some of the causes which he thought tended to produce this malady—such as pasturing on damp, marshy lands, and eating certain kinds of grasses. In the cases which had come under his notice, he had taken particular care to examine the food, water, drainage, etc., but had failed to detect anything which he could connect with the disease. Some of those that were stricken with the malady were working horses, and were fed on wholesome food, which, although changed after the first case was noticed, did not prevent the spread of the disease. Colts that were at pasture on the same farm were affected in a similar manner. He noticed that the majority of cases, in fact nearly all, that came under his notice, were mares, which he thinks suggests a susceptibility in mares. The stables in which his cases occurred were in good order. In one case blood-letting was resorted to, the man being ordered to take the blood some distance from the stable; it was, however, thrown down in a corner without being buried, and next morning a dog was noticed to be paralysed. Sparrows also suffered in the same way, which gave rise to the question: Did the blood cause the malady?

Blood was taken from diseased animals and injected into healthy ones, but no result followed—no paralysis. Mr. Daniels, who had a number of cases of this kind, had also proved the same. Professor Axe thought it resembled the disease called "Kumree," which occurred in India during the prevalence of cold winds in the autumnal periods. It was presumed to be epizoötic in character, and appeared to be prevalent in Ireland. Professor Robertson had said that it arose from eating rank grasses. The disease is sudden in attack, with paralysis; occasionally the legs will only cross, and the toes trip during progression for a day or two; ultimately complete paralysis supervenes. In some cases there are no premonitory signs, but the horses are suddenly stricken, and the lungs becoming implicated, there is collapse of the system. In other cases the muscles are in a state of tonic spasm, which may remain persistent as though suffering from Tetanus. There is also a good deal of excitement and irritability; the eyes stare, there are spasms of the muscles, afterwards stupor, and the lips lose their prehensile power, the food being seized after the manner of a dog; it is also noticed in drinking, the head being inserted in the pail nearly up to the eyes; in other cases animals may lose all consciousness.

In some cases he had examined after death, he found about ten or twelve ounces of arachnoid fluid, and the pia mater of a brick-red hue and engorged, the brain showing a similar condition, with some staining of serosity with which it was infiltrated, and no softening. These he found to be the most prominent symptoms.

In the discussion which followed, Mr. DACRE related a case in an outbreak in horned stock. The animal was milking heavily, with a wild and excited look; pulse 80, temp. 102·4°; grinding of teeth, no insensibility, nothing to show pressure on the brain. The food consisted of chopped hay, Indian meal, and cotton cake. The *post-mortem* examination showed engorgement of blood-vessels of the dura mater and pia mater; there was also a little more fluid in the spinal cord than usual; the substance of the brain and spinal cord was normal; the third stomach was inflamed.

Professor W. HILL thought Mr. Dacre's cases were Hysteria, and not Cerebro-Spinal Meningitis; he had five cases, and has ascribed them to eating a large quantity of Indian corn and bad hay. His treatment has been six drachm doses of Potass. Iodid. and ten minims of Aconite tinct. twice daily, and the spine dressed with Ung. Hydr. Biniodide.

Mr. P. TAYLOR thought it was like the Horse-disease in America in 1871, and that it was due to some vegetable poison which acted on the circulatory system.

Mr. GREAVES related an instance that came under his notice where a number of horses that were attacked were prostrate, and some died. He considered it was due to something in the hay, it being cut at a particular stage of its growth. His treatment was an entire change of food.

Mr. LYMAN, U.S.A., had seen a great number of cases in America in the spring of the year. He did not think that either food or water, high or low ground, had anything to do with it. Some had put it down to atmospheric influences, which he had not much faith in. The symptoms were very variable, from slight paralysis to complete coma. He had noticed that more mares were attacked than horses, but a greater percentage of mares recovered; geldings were almost certain to die. He treated them with physic, Belladonna, etc. He objected to slinging, as he thought it fretted them.

Mr. HOPKIN had had a number of cases similar to those of Professor Axe, but was at a loss how to account for them. He had changed the food; he had read that the spores on oats had produced the same symptoms, such as ergotising of rye. He found that if the cases were slung they got better, but if they got down they died.

Mr. REYNOLDS had observed that autumn rye-grass in certain seasons became ergotised, and produced the same symptoms.

Mr. WOLSTENHOLME thought that ergot poisoning did not produce cerebral symptoms.

Mr. W. A. TAYLOR had had three cases presenting symptoms such as those described by Professor Axe. In his cases the hay given was bad, but the water was good. There was stertorous breathing. He had given stimulants, and applied mustard and water over the spine.

Mr. FAULKNER would warn members against mistaking Cerebro-spinal Meningitis for Azoturia, and after some remarks from Mr. BLAKEWAY,

Professor AXE replied. He said he had treated with aperients, slings, and quietude; had stimulated the spine with blisters and resorted to Potass. Iodid. and Nux Vomica. He found that the temperature in all cases of duration kept the normal standard, except through bed sores or constitutional disturbance, and then it would rise one degree. They are not of a febrile character, the duration of the disease being from forty-eight hours to several weeks. It was a very obscure disease.

After some remarks from the PRESIDENT, Mr. MORGAN proposed, and Mr. A. LAWSON seconded, a vote of thanks to Professor Axe for so kindly coming amongst them. This was carried by acclamation.

Professor AXE returned thanks, and a similar compliment having been accorded the President, the members adjourned to the Washington Hotel, where the President had kindly provided dinner.

WM. LEATHER, *Hon. Sec.*

Jurisprudence.

BREACH OF WARRANTY.

NEWCASTLE-ON-TYNE COUNTY COURT.

IN August last, Judge Bradshaw delivered judgment in an action for breach of warranty, tried a few days previously, and which may not be without interest to the members of the veterinary profession. His Honour said:—"I reserved my judgment in this case for further consideration, not that I ever had any doubt as to what my decision must be; but because the principle involved undoubtedly has an importance extending far beyond the present case—for it affects the sale of many hundreds of horses in the course of the year in Newcastle alone; and also because I wished to see if I could find any authority for Mr. Joel's proposition that a representation in the catalogue of sale by auction—a description of a horse in such a catalogue—if read out by the auctioneer at the time of the sale, constitutes a warranty of the horse in respect of the matters therein represented or described. The facts, so far as they are material, are simple enough. The plaintiff sent a horse to Messrs. King and Gillespie's establishment for sale in the usual way at one of their regular auctions. The sale was held on the 25th June last. The auctioneer was Mr. John Riddell. The horse was numbered in the catalogue of sale, Lot 22. The conditions of sale and the catalogue were put in. Lot 22 is thus described: 'Cream-coloured cob, seven years old, about 14·2 hands high; quiet to ride and drive, up to a heavy weight. Subject to V.S. examination prior to sale.' Lot 22 was knocked down to the defendant, who gave a cheque for the price, and removed the cob. The cheque was stopped before payment, and the cob was returned to Messrs. Gillespie's yard on the second day after the sale, on the ground that it did not answer the warranty given at the time of the sale, the defendant alleging as the breach, that it

was not 'quiet to ride and drive,' nor was it 'seven years old.' In the result an action was commenced in the Newcastle District Registry of the High Court of Justice, for the price of the cob, £24 3s. The action was sent down to be tried before me, with the writ, without pleadings. In the course of the trial, Mr. Joel withdrew his defence, so far as related to 'quiet to ride and drive,' and took his stand upon 'seven years old.' He contended that these words, which the auctioneer admitted he had read out from the catalogue at the time of putting up the lot for sale, constituted a warranty that the horse was seven years old. He called, in support of his contention, Mr. Elphick and Mr. Hunter, veterinary surgeons of experience and repute, who both positively swore, from an examination of the cob's mouth, that it was more than fifteen years old. On the other hand, the plaintiff swore that, to the best of his belief, the cob was seven years old. He stated that he had bought it of one Graham, a horse-dealer, who did not warrant it, but who told him, *inter alia*, that he believed it was seven years old. Graham was called and confirmed this. Both Graham and the plaintiff swore that it was very difficult, if not impossible, to form a positive opinion of a horse's age after six, or at most, eight years old, from an examination of its mouth; and I confess that the contrary opinions, sworn to by Messrs. Elphick and Hunter, very much surprised me. This evidence would, of course, be very material if we were dealing with an admitted warranty. But though it seemed necessary to refer to it in order to make the facts intelligible, it is not really before me. In my view of the case there is a preliminary question to be solved. Is an allegation in a catalogue of sale by auction that a horse is seven years old, a warranty of that fact by the seller, or is it mere description or representation? Now, it is well settled that every statement as to soundness or other qualities which the seller of a horse may make at the time of the sale in the course of his dealing, and before the bargain is completed, is a warranty, if it appears to have been so intended. That was the law laid down in the leading case of Pasley *v.* Freeman (2 Smith, L.C., p. 72), and it is the law now. Mr. Justice Buller there said:—'It was rightly held by Holt, C.J., and has been uniformly adopted ever since, that an affirmation at the time of a sale is a warranty, provided it appear in evidence to have been so intended.' And it has been held that whether or not a warranty be intended, is a fact to be determined by the jury, upon consideration of all the circumstances. In Budd *v.* Fairmanner (8 Bingham, p. 48) the receipt was in the following words:—'Received £10 for a four-years-old colt, warranted sound in every respect.' It was held that the warranty was restricted to soundness, the age being mere matter of representation or description. Tindal, C.J., there says:—'A party who makes a simple representation stands in a very different situation from one who gives a warranty. For such a representation he will not be answerable unless it be shown to be false within his knowledge.' No doubt it would be more prudent in cases of this kind, where it is difficult, or even impossible, to arrive at certain conclusions, to describe a horse generally as 'aged' instead of particularising his age; and it seems strange that so shrewd a class of persons as horse-dealers are supposed to be do not act upon this. But that they do not do so is obvious from a cursory inspection of this particular catalogue, in which, out of forty-two lots of horses for sale, no less than eleven horses are described as seven, or eight, or nine years old. But it may be said that Pasley *v.* Freeman, and Budd *v.* Fairmanner are purely common law cases, decided before the Judicature Acts, which give a contractor the benefit of any equitable doctrine in his favour. But *caveat emptor* is as much a rule of equity as of law. In Snell's 'Principles of Equity,' p. 387, the learned author, speaking of the relief given by courts of equity for misrepresentation, says:—The misrepresentation must not only be in something material, but it must be

something in which the one party places a known trust or confidence in the other. It must not be a mere matter of opinion, equally open to both parties for examination and inquiry, where neither party is presumed to trust the other, but to rely on his own judgment. But if the purchaser, choosing to judge for himself, does not avail himself of the knowledge, or means of knowledge, open to him or his agents, he cannot be heard to say that he was deceived by the vendor's misrepresentations, for the rule is *caveat emptor*.' Now I am of opinion that in the present case there was no intentional misrepresentation. I think the plaintiff believed, and that he had reasonable grounds for his belief, that the horse was seven years old. I am further of opinion that the words 'Subject to V. S. examination prior to sale,' were intended to enable the purchaser, and did enable him, to avail himself of skilled professional assistance, if he had thought fit to do so. He seems to have chosen to judge for himself. He cannot therefore now be heard to say he was deceived, even in a court of equity. Speaking generally, I have been unable to find any direct authority for the proposition that a description of a horse, his age, or qualities, in a catalogue of sale by auction, even though such description be read out by the auctioneer at the time of the sale, is a warranty of the thing or quality so described; and I am unable to deduce such a proposition from the cases. In the catalogue of sale before me I observe that Lot 7 speaks of a bay gelding, 'Turko,' his height, his qualities as a charger, a hack, a hunter, and otherwise, and then adds 'warranted sound.' Lots 14, 26, 27, and 28, *mutatis mutandis*, are to the same effect, and all have the words added 'warranted sound.' Referring to these lots, I asked Mr. Joel whether he would say that the qualities enumerated, other than soundness, were warranted. And he argued that they were so, and that soundness was specially warranted. I cannot agree with him in that opinion. I find as a fact that the parties did not so intend. This would be sufficient, in my opinion, to give the plaintiff a verdict. But beyond this, I think that the matter is concluded by the conditions of sale. The sixth condition has these words: 'No warranty to be implied from price or otherwise, or held as granted, unless expressly agreed to in cases of sale by private contract, or announced by the auctioneer from the box in sales by auction.' It is in evidence that no such announcement was made by the auctioneer on the sale of Lot 22. My judgment, therefore, is for the plaintiff. I have given my reasons at greater length than was perhaps necessary to determine the question immediately before me, because the interests of so many persons are affected by it."

Army Veterinary Department.

War Office, September 13th.

VETERINARY DEPARTMENT.—Veterinary Surgeons on probation, J. H. Steel, E. H. Kelly, and E. E. Bennett, to be Veterinary Surgeons.

The following pertinent article appeared in the *Army and Navy Gazette* for September 24th:—

"The condition of the Indian Veterinary Department appears to be, in every sense of the word, deplorable, and unless it is remedied, the consequences must be serious for that portion of our empire. So unjustly and cruelly have veterinary surgeons been treated by the Indian Government, that in a short time it is probable very few will remain in the country. The number of applications to return to England has never, we believe, been so large, and the best men are those who are most anxious to leave a country

in which, do as they may, they are invariably subjected to incivility, insult, and discouragement of every kind. The greatest difficulty is experienced in getting veterinary officers to leave England for a term of Indian service, and though large sums are offered for exchanges, substitutes can scarcely be procured. With regard to this department, the Indian authorities appear to be acting in the most unaccountable manner, and in a way calculated to dishearten and degrade it to the very lowest condition possible. A short time ago, we called attention to the discreditable conduct of Surgeon-General J. M. Cuningham, in his criticisms on a report made by Inspecting-Veterinary-Surgeon G. Evans, with regard to an obscure disease among horses. The fact that such a report should be submitted to a person who was obviously not in a position to deal with it, to say nothing of the presumption and bad taste of that person in undertaking to criticise it, did not reflect any credit on the authorities, but, on the contrary, exposed them to serious strictures for their want of judgment and tact. They have now further aggravated the offence they then committed, by allowing to be published in the Military Department in July another criticism by a Mr. Paul Knight, late editor of the *Indian Agriculturist*, on Mr. Evans's report. Anything more objectionable than the conduct of the Government in this business cannot be conceived. Mr. Knight's critique is nothing but a tissue of nonsense, and he himself confesses that he knows nothing of the subject he ventures—without, evidently, any kind of medical knowledge—to give an opinion upon. This absence of knowledge, however, does not prevent him forwarding a preparation which will cure animals suffering in any stage of the malady, the nature of which, be it remembered, Mr. Knight admits is not known. Here, then, we have the Indian Government not only insulting and degrading the Veterinary Department, by asking for and publishing the opinions of incompetent amateurs on a subject strictly professional, but also directly encouraging undisguised quackery in the grossest form, in the treatment of disease. Can we be surprised that the losses among animals every year represent many millions of pounds, which are entirely thrown away, that the campaigns in Afghanistan were a heavy disgrace to us, so far as the mismanagement of and cruelty to animals are concerned, and that no veterinary surgeon who can leave India will serve in it, for love or money? We wonder how much longer such a state of affairs will be tolerated by the Imperial Government."

Obituary.

THE death is reported of W. E. Harrison, M.R.C.V.S., of Boroughbridge, Yorkshire, who graduated in 1868.

Also of J. S. Cusack, of Cashel, Ireland, who graduated in 1876; J. Baxter, of Port William, N.B., a graduate of 1836; and J. Corbett, junr., of Newcastle-on-Tyne, who graduated in 1874.

Germany has sustained a heavy loss in the demise of Dr. C. H. Hertwig, an ex-professor of the Berlin Veterinary School, and an Honorary Fellow of the Royal College of Veterinary Surgeons, who has had a most distinguished career in human and veterinary medicine—especially the latter. Born at Ohlau, in Silesia, in 1798, Hertwig was educated at the Gymnasium of Brieg. Passing there with honours, he studied medicine and surgery at the Breslau University, and subsequently veterinary medicine at Vienna and Munich. After graduating he made a scientific tour through Switzerland, France, Holland, and England. In 1823 he took the post of "Repetitor" at the Berlin Veterinary School, and in 1826 received the degree of M.D. from

the University of that city, his thesis for the doctorate being entitled "*Experimenta quædam de effectibus læsionum in partibus encephali et de vevosimile harum partium functione.*" In 1833 he became professor, and soon after he was sent to make a careful study of the cattle plague in Bohemia and Russia, being associated in this task with Professors Prinz, of Dresden, and Wirth, of Copenhagen. With Professor Gurlt, of the Berlin Veterinary School, he many years ago commenced a veterinary journal, the *Magazin*, a most valuable periodical, and to the pages of which he largely contributed, some of his articles being of great scientific and practical value. In 1829 he published a treatise on Rabies; in 1833 a work on veterinary medicines, containing many original experiments with drugs; in 1847, a book on operative veterinary surgery; in 1850, an excellent work on veterinary surgery; a volume on horses in 1851; a monograph on the diseases of the dog in 1853; and a veterinary conspectus in 1856. He also contributed largely to Canstatt and Eisenmann's *Jahresbericht*, a medical and surgical journal. Full of years, and honoured by his sovereign, his country, and his profession, Hertwig's death, though expected, will nevertheless be severely felt. He was a typical German in everything pertaining to science, to patriotism, and to manliness. The deaths of Hering and Hertwig leave blanks in our list of Honorary Fellows which will not easily be filled.

Notes and News.

A FASTING DOG.—The *Metzer Zeitung* tells a story of the "Dog of the Regiment" which has endured a fast greatly surpassing the celebrated performance of Dr. Tanner. The Foot Artillery Regiment, No. 7, possess a hound of which it is justly proud, and is now likely to be prouder than ever. In spite of the affection of the officers and men for their favourite, by some luckless oversight they left their dog behind them when they departed from Metz, on June the 1st, for the artillery practice on the Wayner Heath. They concluded that some of the good citizens would look after their well-known favourite, and confidently expected to find it safe and sound on their return to Metz. They did not re-enter the old Lotharingian city until the 9th of July, having been absent exactly thirty-eight nights. To their dismay and grief they found their faithful companion in one of the rooms of the barracks of the Rhine, totally powerless, a mere bag of bones, but still alive. Not the least trace of any means of nourishment was to be seen in the room; but there were plentiful signs that the poor dog, in order to still the pangs of hunger, had gnawed at the wood of the wainscot and furniture. Dr. Tanner at least obtained what nourishment is to be got out of pure water; but how the poor animal managed to keep life in his body, without either meat or drink, for thirty-nine days, is certainly a riddle. The sceptic will naturally incline to the suspicion that something eatable must have been left in the prison. When the animal was discovered his exhaustion was so intense that he could only take milk nutriment in the smallest portions; but after three days of careful and constant medical treatment, he could stand again upon his legs, and at the end of a week was able to eat meat.

PROTECTIVE INOCULATION FOR CONTAGIOUS PLEURO-PNEUMONIA.—As a proof of the strong belief in the efficacy of inoculation for Contagious Pleuro-pneumonia as a prophylactic measure, the new French law with regard to Veterinary Sanitary Police, in Article 9, ordains:—"In the case of Contagious Pleuro-pneumonia, the Préfet shall order the slaughter, within two days, of animals certified to be diseased by the appointed veterinary

surgeons, and *the inoculation of all animals of the bovine species in the localities declared to be infected with this disease.*"

We learn that Mr. Rutherford, Army Veterinary Department, now serving with the troops in Natal, having obtained permission from the Colonial Government, has been very successfully inoculating cattle to preserve them from the disease, which is a veritable scourge in South Africa. If inoculation is properly performed and precautions taken with regard to surrounding circumstances, there can be no doubt whatever as to the result.

RABIES IN DOGS.—A contribution to knowledge of this disorder has been recently made by M. Galtier (*Comptes-Rendus*). The most important of the conclusions which he draws from his experiments is that the saliva of a mad dog, obtained from the living animal and kept in water, continues virulent five, fourteen, and even twenty-four hours afterwards. This fact has consequences which everybody should be aware of. Thus it seems that the water of a vessel in which a mad dog may have dropped some of its saliva in attempting to drink should be considered virulent at least during twenty-four hours; and next, that as the saliva of a mad dog which has succumbed to the malady or has been killed does not lose its properties through mere cooling of the body, it is important, in examining the cavities of the mouth and throat after death, to guard against the possible danger of inoculation. M. Galtier tested rabbits with regard to rabies, and found it transmissible to them from the dog; also, the rabbits' rabies from them to animals of the same species. The chief symptoms are paralysis and convulsions. The animal may live from a few hours to four days after the disease has declared itself. It is notable that the period of incubation is much shorter in the rabbit than in other animals, and this makes the rabbit a useful reagent for determining the virulence of a particular liquid. M. Galtier found salicylic acid, injected daily under the skin, powerless to prevent the development of the disorder in rabbits.

THE EPIZÓÖTY AMONG ANGORA GOATS IN SOUTH AFRICA.—We learn from Cape Town, under date of August 16th, that a fresh outbreak of disease among the Angora goats in the Bedford district is reported, and many thousands have already died.

FRENCH HORSES.—Although the French Government studs now contain nearly 2,000 sires of different breeds, and though the amount of money spent in encouraging horse-breeders generally has been increased to a considerable extent, the officers whose duty it is to buy horses for the army remounts find it no easy matter to procure a sufficient number; and at a recent meeting of the committee which has the management of the *haras*, it was agreed to recommend that the prices at present paid by the Minister of War should be increased. The average given for cavalry and artillery horses is no higher now than it was thirty years ago; so that those who breed horses at all do not find it remunerative to attempt to produce animals suitable for military purposes. This increase in price can only be effected by a vote of the Chamber, which, when the army estimates are next under discussion, will also be called upon to vote an addition to the credit now allotted for forage, as the committee have also come to a unanimous decision that the horses of the cavalry and of the artillery are insufficiently fed. The force of routine is such that horses are given less food in winter than in summer; whereas, since the reorganization of the army, the bulk of the work has to be done in the winter. As M. Tisserand, the Director of Agriculture, has pointed out, there is a great disproportion between the end which the Ministry of War seeks to attain and the means which it employs. It exacts from horses much more work than formerly without giving them more food, and wants to buy horses which are bigger and stronger without paying a higher price for them.

INOCULATION OF RABIES.—M. Pasteur and his assistants have succeeded in communicating rabies by the inoculation of the brain of a dog dead of the disease. The experiments were successful with pieces of the cortex and of the medulla oblongata, and with the cerebro-spinal fluid. There is, of course, nothing very remarkable in this result. It has long been known that the virus is widely diffused in the body of the dog, and it would be strange if the brain did not contain it, when we consider the demonstration which the symptoms afford of the action of the poison on the nerve-centres. M. Pasteur, moreover, asserts that by trephining a healthy dog, and placing in contact with its brain cerebral tissue from a rabid animal, not only is the disease communicated with certainty, but the incubative period is reduced to a few days in every case. The disease may manifest itself in either of its two habitual forms—the ordinary form, or "dumb-madness."

Correspondence, etc.

OUR ACT OF PARLIAMENT: WILL IT BENEFIT OUR PROFESSION?

SIR,—It has been said, "Why, you are legalizing quackery"; and the query has been put, "What better will you be now that you have got your Bill passed? you have placed yourselves under the Privy Council"; and, again, it is said that "the non-qualified man is more honoured and more benefited than the qualified man is." My object in writing the following lines is to examine and discuss the question carefully and dispassionately, and if possible to come to a clear and correct understanding of the whole matter.

In the first place, it will be well to remember that from the earliest period in the history of the veterinary profession, a want was keenly felt by its members—a discontented, dissatisfied feeling existed; and as time went on every member felt this want more and more keenly—it became a serious and very important grievance. The want referred to was some security or assurance that the knowledge we had acquired at so much time, labour, and expense, should be acknowledged and protected. The exercise of this knowledge was our living, and our life. It was felt to be a grievous injustice, when any ignorant, unprincipled man, possessing a little common horse-knowledge, which had not cost him one sixpence nor one hour's study, but who possessed a very large amount of effrontery and audacity, could set up in opposition and emblazon on his sign the name and title of "veterinary surgeon," and this too with perfect impunity. There was not the slightest illegality in his doing this; he was not acting unlawfully in representing that he had an equal right to this title with the member who had spent the greater part of his life in learning, studying, and acquiring this special knowledge, and had finally obtained a diploma setting forth that he was an educated, scientific, and qualified veterinary surgeon. So great was this grievance felt, that in the year 1844 some of our most eminent and worthy members applied to the Government of that day to obtain a Royal Charter of Incorporation. Although this Royal Charter elevated our profession and gave it an importance and standing it never had before, it was found that it failed utterly to give us the protection we all yearned to possess, viz., a power to prevent empirics and impostors deceiving the public in assuming the name or title of veterinary surgeon. It is quite true we have never made a stand and insisted upon the exclusive right to this title; and ever since that hour every earnest well-wisher in our profession has never ceased urging upon the powers that be to apply to Parliament

for an Act embodying a clause making it a penal offence in any one assuming the name or title of veterinary surgeon, unless he possesses the diploma of the Royal College of Veterinary Surgeons; this power no Royal Charter could give. The hitch existing between the Royal College and the Highland and Agricultural Society of Scotland interfered for many years in this matter, until the pressure put upon the Council from every part of England, and also from Ireland, became so great that the matter could not be any longer delayed, and our President, Mr. George Fleming, had a draft of a Bill drawn up which embodied this penal clause, and laid it before the Council, who discussed it and agreed upon its provisions. He applied to Parliament, and after almost superhuman labour, tact, and ability, he has succeeded, in the face of many serious difficulties and opposition, in getting it passed through all its stages, and it is now the law of the land; this, too, without the profession or the Council having been subjected to the expense of one penny. Thanks to the earnestness, sincerity, and magnanimity of one man, no greater boon was ever conferred on a profession than this; it is an act worthy the undying remembrance and gratitude of a great and noble profession, which has had a rich and useful past, a brilliant present, and now a hopeful and splendid future.

The Effects of the Act.

In the first place, the members of the profession, seeing that they have now the exclusive or prescriptive and legal right to the name and title of veterinary surgeon; seeing that from and after the passing of this Act no one can adopt the name or title of veterinary surgeon, save those who have obtained the diploma of the Royal College of Veterinary Surgeons, possess the certificate of the Highland and Agricultural Society of Scotland, or have been registered by the Council of the Royal College of Veterinary Surgeons; this fact will at once remove from their mind that feeling of dissatisfaction and discontent which had haunted them, and to which they have been a prey ever since they entered the profession. No man can use the initials M.R.C.V.S. after his name but he who holds the diploma of the Royal College of Veterinary Surgeons. This of itself will give our profession a new footing, a new era, a new life.

In the second place, instead of any one being at perfect liberty to commence business whenever and wherever he likes, and call himself a veterinary surgeon, as was the case until the other day, our Act steps in and says: Unless you possess a diploma of the Royal College of Veterinary Surgeons, or a certificate of the Highland and Agricultural Society of Scotland, or are registered by the Council of the Royal College of Veterinary Surgeons, you cannot assume the name or title of veterinary surgeon. (Our President fought like a Trojan for the exclusive right to the name and title of veterinary surgeon; but everything was against him; all the arguments went against him, both in the House of Lords and in the Commons.) To the non-qualified man it says: If you have practised continuously for five or more years, you can apply for registration to the Council of the Royal College of Veterinary Surgeons any time within one year after the passing of this Act, producing to the Council evidence of your title to registration, by statutory declaration of yourself and of other persons able to testify on your behalf, or such other evidence as that Council reasonably requires, you shall be registered under direction of the Council accordingly. If the said Council, in their discretion, grant you registration, you will be entered in their register under the heading of "Existing Practitioners," and without such registration you cannot practise your calling, since you may be at any moment summoned before the magistrate and fined twenty pounds; and,

moreover, any person practising in any manner on horses or other domesticated animals without diploma, certificate, or registration, under whatever name or title he may choose to assume, shall not be entitled to recover in any court any fee or charge for performing any veterinary operation, or for giving any veterinary attendance or advice, or for acting in any manner as a veterinary surgeon or veterinary practitioner, or for practising in any case veterinary surgery or any branch thereof.

The Council have the power to refuse registration if the evidence is not satisfactory to them. In such a case the applicant can apply to the Council to state in writing the reason for the refusal, and he may appeal to the Privy Council, and the Privy Council, after communication with the Council and the appellant, may either dismiss the appeal or order the Council to register the appellant under this section. It is considered that the number of applicants for registration will not be numerous, and that the cases in which the Privy Council will exercise their power to order our Council to register will very rarely, if ever, occur. It is simply the custom in every Act of Parliament to have a clause similar to this inserted in it in all such cases; so that none but those members of our profession who possess exceedingly thin skins, or are fastidiously sensitive, need feel any anxiety or alarm on this head.

Some members of our profession have thought proper to petition against this Bill. Their action could only be ascribed to one of two causes: either they did not understand our position, or else they are men whom nothing will please or satisfy. Surely there is no man possessing any experience or knowledge of the world, or an average amount of intelligence, who would for a moment entertain the idea that our legislators would pass a Bill which contained one or more clauses, the object of which was at one fell swoop to ignore, or snuff out, a large body of men who had been following an honourable calling in a legal and lawful manner, and many of whom had been in practice for a long series of years with credit to themselves and with satisfaction to their employers, and at the same time provide no alternative for them. I say, any man holding such views, such hopes, such promises, is luring you with promises impossible of realisation. Yes, it would be impossible, utterly impossible, to get any bill passed by our legislators which did not provide for and recognise their claims. It must never be forgotten that our legislators have to legislate for the whole community, rather than for a select party. These problems can only be grasped and solved by unprejudiced men—men possessing the clearest and calmest exercise of the understanding.

It is sad to reflect upon and contemplate the immense damage and mischievous effects done our profession by this opposition. The non-qualified men soon discovered that there was a split in the ranks of our profession, and availed themselves of the splendid opportunity it gave them; it strengthened their hands immensely, which they used with a vengeance. It put an argument into the mouths of the members of Parliament who were opposed to us, and who were intensely in favour of giving quackery and empiricism a most magnanimous and generous consideration and support. There sprang up immediately four notices of motions to have the Bill read that day three months, besides several amendments, which wellnigh wrecked the measure. Had we been as true and loyal to each other as the non-qualified men were to themselves, we could have had this Bill passed with one-thousandth part of the anxiety it has cost. It certainly would have been a much better Bill; for example, as only one instance, it would without doubt have embodied in it a clause giving exemption from juries.

In conclusion, let me remark that up to this very moment quackery and

imposture have been constantly on the increase, as against our profession, and they would have gone on increasing, and this, too, it must be borne in mind, with perfect impunity—not unlawfully. Instead of which, see the difference! on and after December 31, 1883, quackery, so far as veterinary medicine is concerned, will be finally and decidedly extinguished. No man after this present date will be allowed to commence practice, or to practise at all, unless he has the diploma of the Royal College of Veterinary Surgeons, or a certificate of the Highland and Agricultural Society of Scotland, or registration of the Council of the Royal College. *No other man can follow the calling* of treating the diseases or ailments of the horse and other domesticated animals, under any name or title whatsoever; if he makes any charge or fee for this work he cannot get it, he cannot recover in any court. And, further, if he has the temerity to take or use the name or title of veterinary surgeon, or veterinary practitioner, or any name, title, addition, or description, stating that he is a veterinary surgeon, or a practitioner of veterinary surgery, or any branch thereof, or is specially qualified to practise the same, he shall be liable to a fine of not exceeding twenty pounds. Or if he has the audacity to take or use any name, title, addition, or description by means of initials or letters placed after his name, or otherwise stating or implying that he is a fellow, or a member of the Royal College of Veterinary Surgeons, he shall be liable to a fine not exceeding twenty pounds, the prosecution to be undertaken by the Council or with the written consent of the Council.

Yours truly,

Manchester, Sept. 14. THOMAS GREAVES, F.R.C.V.S.

THE VETERINARY SURGEONS ACT.

DEAR SIR,—I have read, with a great deal of pain, the somewhat scurrilous letter signed "Lancashire," published in this month's Journal. Do you not think, sir, that now that we have won the victory and obtained our Bill, we can afford to forget the turmoil and angry feelings naturally engendered in all warfare? Victors can certainly afford to be generous. But in the letter of "Lancashire" there is one statement which is not in strict accordance with the truth. The candidature of Mr. Stephenson as a member of Council was promoted by the North of England Veterinary Medical Association. It was proposed by Mr. Dudgeon, the then President, and seconded by myself, that Mr. Stephenson be proposed as a member of the Council, and that we, as an association, use our best endeavours to secure his election. It is known to you, sir, that in every way consistent with honourable warfare I have opposed Mr. Stephenson in his antagonism to the Veterinary Surgeons Bill; but now that the Bill has passed, I consider that, as in all political warfare, our enmity is at an end. We have won, and it certainly is not generous to turn round and kick (Lancashire fashion) the man we have beaten, but rather try to make him our friend. The unity of the profession will certainly not be promoted by angry feelings or scurrilous letters, nor its honour increased in the eyes of the public by any such means.

I remain, dear sir,

Yours very faithfully,

W. J. MULVEY,

President, North of England Veterinary Medical Association.

Bishop Auckland, September 19th.

[We certainly quite agree with our correspondent that, now that the victory remains with the profession, no further reference need be made to those who appeared to be determined that such a valuable measure as the one recently obtained should not become law. At the same time it will be seen, from the date of the letter to which he alludes, that it was written when the most sanguine supporters of the Bill were almost, if not quite, in despair; and it was printed, and we may even say published, before the Royal Assent had been obtained. The letter was only one of a multitude sent for publication, some of them written in even stronger terms, and all expressing anger and disgust that there should be any one in the profession so bitterly opposed to its best interests. This feeling was nothing more than natural at a time of great anxiety and suspense, when not only our present but our future welfare depended on the success of the Bill, which was a public, not a private measure. The criticisms on the conduct of those who appeared to have done their utmost to mar its progress were therefore of a public and not a private nature. But the profession, having won the day, can well afford to be generous to its opponents, and say no more about them.]

AN APPEAL TO THE NORTH COUNTRY PRACTITIONERS.

SIR,—The importance of Veterinary Medical Associations as a means of improving our *status*, by interchanging opinions, and creating a more friendly spirit and feeling amongst brother practitioners, is in most parts of England duly appreciated, as shown by the establishment of some place where they can periodically meet and discuss matters of professional interest.

The purport of this letter is, Mr. Editor, with your permission, to ask those whom it most concerns, if the time has not come to establish an Association for the Northern Counties and South of Scotland?

Being but a young practitioner, I feel reluctant to take any initiative in such a movement, but am most anxious to see the establishment of a society for the north, say at Carlisle, which is central and easily accessible from all the adjoining counties and south of Scotland.

In the early part of summer I spoke to Mr. Carlisle (the oldest practitioner in Cumberland) on the matter, and he expressed a great desire to effect such a movement, if he could only have assistance; several other practitioners to whom I have spoken signified their willingness to join. Therefore, Mr. Editor, I ask you to allow me to appeal to the north country practitioners to move in this matter—to be up and doing, and permit themselves no longer to stand aloof from our own interest. If the elder members will only unite and take action, I can assure them that the hearty co-operation of their younger professional brethren will be most willingly accorded.

I am, sir,

"A YOUNG CUMBRIAN."

[We feel certain that the appeal of our enthusiastic correspondent will be heartily responded to. In these brighter days, Veterinary Medical Associations are absolutely essential, not less to the body corporate than to individuals. The benefits derived from them are immense, and we therefore gladly second the proposal of "Young Cumbrian," and will gladly give all the assistance we can in the institution of a Border Veterinary Medical Association. There are many excellent practitioners on both banks of the Tweed who will at once join in the movement.]

THE VETERINARY CONGRESS OF 1881.

SIR,—Mr. Ward, in your last issue expresses surprise at the absence from the late Congress of certain principals of schools. As I am in the list of absentees, may I suggest to Mr. Ward the advisability of making himself acquainted with the reasons of such absenteeism before condemning us? In the first place, the promoters of the Congress placed themselves in antagonism to the Scottish Veterinary Medical Associations, by their treatment of the certificate-holders of the Highland and Agricultural Society, although these associations had previously expressed the intention of doing all in their power to assist the promoters of the Congress. Individually, however, I should have assisted at the Congress had I been able. I am not, however, ubiquitous, and I fancy if my friend Mr. Ward had got through the amount of work which I did last winter and spring, he would not have been particularly anxious to make two journeys from Edinburgh to London in the space of a fortnight. Had the meeting of Congress been held about the same time as the Council meeting, I should certainly have felt it my duty, as it would have been a pleasure to attend, and I think by a little foresight the members of Council who had long distances to travel might have been accommodated, by the promoters arranging the simultaneous holding of the former with the latter meeting.

Certainly, in the interests of the profession, and as a duty, I thought the Council meeting the more important one for me to attend.

I am, yours faithfully,

THOMAS WALLEY.

NATURA VERA OF BURSATTI AND CANKER.

SIR,—From Mr. Burke's letter in your June number, it is evident that he considers himself injured. I presume we are all at liberty to express our ideas regarding vexed questions of disease, and especially so when professional opinions are attacked and an attempt made to revolutionize them. Should the "impress of pique," which Mr. Burke feelingly suggests I must be suffering from, mean endeavours to prevent qualified practitioners' opinions being sneered at, and hasty conclusions forced upon them in their place—I say, should this be the "impress of pique," I confess I am suffering from it, and that in an aggravated form. Regarding the chemical reactions, I did not intend, and I am unwilling to believe that Mr. Burke ever thought that I meant from this, that the nature of a growth could be distinguished by its chemical reactions; I regret that my meaning was not plainer, and my powers of expression better. But before leaving this point I may be permitted to add that for some considerable period I have been taught that certain structural elements present certain and very characteristic chemical reactions under the microscope, which reactions assist us materially in arriving at a true knowledge of the substance we are dealing with, and it was bearing this in mind that caused me to mention it to Mr. Burke. In answer to Question 1, why does not Mr. Burke read my paper properly before attempting to remark on it? I fail to find in any part of it the statement "That I knew nothing at all of kunkurs found in internal organs." What I believe I said was "Visceral lesions have not been observed by me," and I am not aware that there was anything peculiar in that, as up to 1878 Mr. Meyrick, of the Stud Department, had only *one* opportunity of making a *post-mortem* of a Bursatti subject,* and his opportunities are infinitely greater than those of

* *Vide* VETERINARY JOURNAL, November, 1878.

a veterinary surgeon at regimental duty.* But whilst on this subject, note what Mr. Meyrick says in the following paragraph: "Strange to say, I found two or three pieces of kunkur on the lungs of another old Arab destroyed at the same time, *who had never shown any sign of Bursatti.* This is a most important fact, and I can fully bear it out, as I have repeatedly noticed the same thing. Only this very day a troop horse of my regiment was destroyed for a fractured limb; his liver was full of kunkur, some pieces as large as a bean.† The cœcum was in a similar condition. This horse had never had Bursatti. How is this to be accounted for? By the calcific diathesis, I suppose."

Question No. 2 Mr. Burke has likewise mis-read. I asked if Epithelial Cancer (not any Cancer) ever healed spontaneously or broke out the following year, etc.; and he quotes from a human surgeon to say that an enlarged gland left after operation or a cicatrix may be the seat of recurrent Cancer. What startling news! Especially when it has no bearing on the case in point. Mr. Burke should remember that Cancer recurring after removal, is a very different state of affairs from Bursatti recurring after the apparent spontaneous arrest of the disease. There is no analogy between the two conditions. The course of human Cancer has been followed too clearly, and with a slight alteration I may be permitted to make use of one of his remarks, "That what occurs in man does not necessarily follow in the horse." Mr. Burke's authority speaks of the arrest of Cancer-growth and its gradual decay. Ask any human surgeon if he waits for the arrest and decay of Epithelioma? Mr. Burke kindly informs me that secondary or tertiary growths occur in the lungs and other viscera from Cancer. I can only thank him for this original remark, but would add that the information was not asked for. But are secondary deposits in internal organs common in Epithelioma in man? No, certainly the exception, according to the best authorities.

But Mr. Burke's second answer has brought to light a new affection, or rather one as far as I am aware of he has not mentioned before. He says, "That an animal may develop a tumour or sore similar in appearance, and without microscopical examination, not differing from that of Bursatti." Why did he not mention this most important condition in his original paper? Can it be an after-growth, the result of Question 2? Mr. Burke's postscript was superlative. The merest tyro who had ever cut through a kunkured liver would be able to say that there deposits existed in two different states by the sensation imparted to the knife in cutting. Why does not Mr. Burke prove the relationship between Kunker and Bursatti by other means than that of those deposits which we have shown exist largely, independent of either disease? Throughout the whole letter, the "Fly" theory, which formed such an important part of the original paper, is carefully avoided, and the silence is as deep as ever on the microscopical appearances of the affection.

I again repeat, Mr. Burke has not proved his point; in fact, is further away from it than he was before. The disease never kills, occurs in the most vigorous as a rule, is not inoculable, the lymphatics are not affected, no inflammatory complications as abcesses, etc., no fever, the subject resists as well as do healthy animals trying and adverse influences, heat, wet, cold, hunger, hard work, and lastly, the presence of Kunkur, which is supposed to

* Mr. Burke in VETERINARY JOURNAL for February, 1881, says that death is so rare from it (Bursatti) that he never heard of a case. This, from such an authority, will be overwhelming proof that opportunities for *post-mortem* examinations are very few.

† I will send you a portion of the liver at my earliest opportunity.

constitute the specific character of this disease, is known to exist largely independent of it. I say, in the face of this, we are asked to believe that the affection is Cancer, that it is the same disease described by an eminent physician in these words: "It is commonly attended with severe pain, incontrollable by any known remedy, tends always, sometimes slowly, sometimes with frightful rapidity, to augment in bulk—eating away contiguous parts by their invasion and pressure, and breaking out, when near the surface, into foul and repulsive ulceration, producing often the most ghastly disfigurement; the appetite fails, sleep is gone, emaciation is great, and still increasing; the sallow, wan, cadaverous expression of face becomes more marked, the whole frame grows bloodless, secondary tumours, internal and external, form, and life is gradually extinguished in much physical misery." I may be obstinate and blind, but the conditions to me do not seem alike. Believe me, sir,

Yours faithfully,

F. SMITH, V.S.,

India, 8*th July*, 1881. *Army Veterinary Department.*

THE PATHOLOGY OF NAVICULAR DISEASE.

MR. EDITOR,—I beg to differ from your statement that it is useless to prolong our discussion on Navicular disease, as from your position as Editor, and Examiner of Veterinary Students, it is of great importance that you should not adopt a wrong theory, and I think that the profession generally will be astonished at your stating there is no navicular joint, or articulation; if that statement be correct, all the writing and discussion respecting Navicular joint disease during the last fifty years has been a delusion. I also differ from your statement that the inferior surface of the navicular bone is not covered with articular or hyaline cartilage, but with true white fibro-cartilage. Setting that question aside, it is well-known that the difference in the anatomy of such joints makes no difference in the pathology of disease. You also state that you have shown diseased bones for years, the appearances of which undoubtedly proved the correctness of the views you entertain as to the malady. The only bone that I have heard or read of your showing was the one you produced at the Southern Counties' Meeting, and that one you kindly allowed me to examine, and I found the whole cancellated structure of it so much diseased that it would not bear a section being made of it without crumbling to pieces. Consequently it supported my theory and not yours. I wrote to all the gentlemen who supported your theory at the meeting. Mr. Greaves and Mr. Barford replied that they had not any specimens to support their theory, notwithstanding that the latter gentleman had made such a bold statement in reference to the disease commencing in the synovial membrane thirty times to once of its commencing in the bone. Captain Russell sent one specimen with an ulcerated cartilage, which on a section of it being made showed a fine porcelaneous structure of the entire bone, consequently disease of long standing. Mr. Martin sent two bones with ulcerated cartilage, which on my making a section of showed the whole structure to be porcelaneous, indicating disease of long standing. He also subsequently sent the navicular bone of a young horse, said to have been going stumpy lately. There was no appearance of disease on the cartilage, but on making a section of it, the early signs of Navicular disease was shown by the enlarging and breaking down of the cancelli. This will show how far Mr. Fleming's views were supported by the members of the meeting. To prove that the disease does not commence in the bone, he must produce navicular bones with ulceration of the cartilage, and which

on a section being made does not show any altered structure of the cancelli. The other part of his theory, that the disease is often confined to the bursa for months before the bone becomes affected, is either an imagination or an adopted theory, as I do not hesitate in stating that he cannot prove it. According to that theory, if a horse receives a kick or injury near a joint, and the cartilage of that joint subsequently becomes ulcerated, it must be from inflammation of the bursa, and not from inflammation of the bone. Fifty years' practice in the dissection of joints has shown me that that theory is a fallacy.

Yours, etc.,

Broad Street, Bath, *September 9th*, 1881. THOS. D. BROAD.

[We must decline to discuss this subject further with our correspondent, but at the same time assure him that we fully recognise the responsibility of our position, and act upon that responsibility, whether dealing with theory or practice, facts or fancies. We do not venture to assert that Mr. Broad is in error; at the same time we think it right to mention that our opinions or views with regard to the anatomy and pathology of the horse's foot are not amended or changed by his statements.]

THE ENEMIES IN OUR MIDST.

SIR,—Kindly allow me, through the medium of your valuable Journal, to inform the gentleman who signs himself "Lancashire" that I am the sole proprietor of the firm known as "C. Stephenson and Son, Veterinary Surgeons and Horse-shoers, Newcastle-on-Tyne."

Yours obediently,

Newcastle-on-Tyne, *September 14th*, 1881. GEORGE ELPHICK.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from F. Smith, 12th Lancers, Secunderabad; J. H. Steel, A.V.D., Ipswich; G. A. Banham, Cambridge; R. W. Burke, A.V.D., Aldershot; E. Stanley, Warwick; S. M. Smith, Grantham; J. C. James, Thornbury, Gloucestershire; R. F. F. Frost, A.V.D., Rangoon; F. Blakeway, Stourbridge; J. Cooper, A.V.D., Aldershot; T. D. Broad, Bath; "Young Cumbrian"; T. Greaves, Manchester; W. Leather, Liverpool; A. Gunn, Balloan, N. B.; A. W. Hill, London; T. Walley, Edinburgh; W. J. Mulvey, Bishop Auckland; C. Stephenson, Newcastle-on-Tyne.

JOURNALS, ETC.: *Journal of the United Service Institution of India; American Live Stock Journal; Lancet; Medical Press and Circular; British Medical Journal; Annales de Méd. Vétérinaire; Recueil de Méd. Vétérinaire; L'Echo Vétérinaire; Journal de Méd. Vétérinaire et de Zootechnie; La Presse Vétérinaire; Pen and Plow; La Clinica Veterinaria; Live Stock Journal; Mark Lane Express; Farmer; Agricultural Gazette; Revue Vétérinaire; Field; Lancet; Archives Vétérinaire; American Veterinary Review; Edinburgh Medical Journal; Practitioner; Army and Navy Gazette; Wochenschrift für Thierheilkunde; Repertorium der Thierheilkunde; Sanitary Review.*

NEWSPAPERS: *Irish Times; Boston Daily Evening Traveller; Scotsman; Leeds Mercury; Newcastle Chronicle; Lahore Civil and Military Gazette; North British Agriculturist; Maidstone Journal.*